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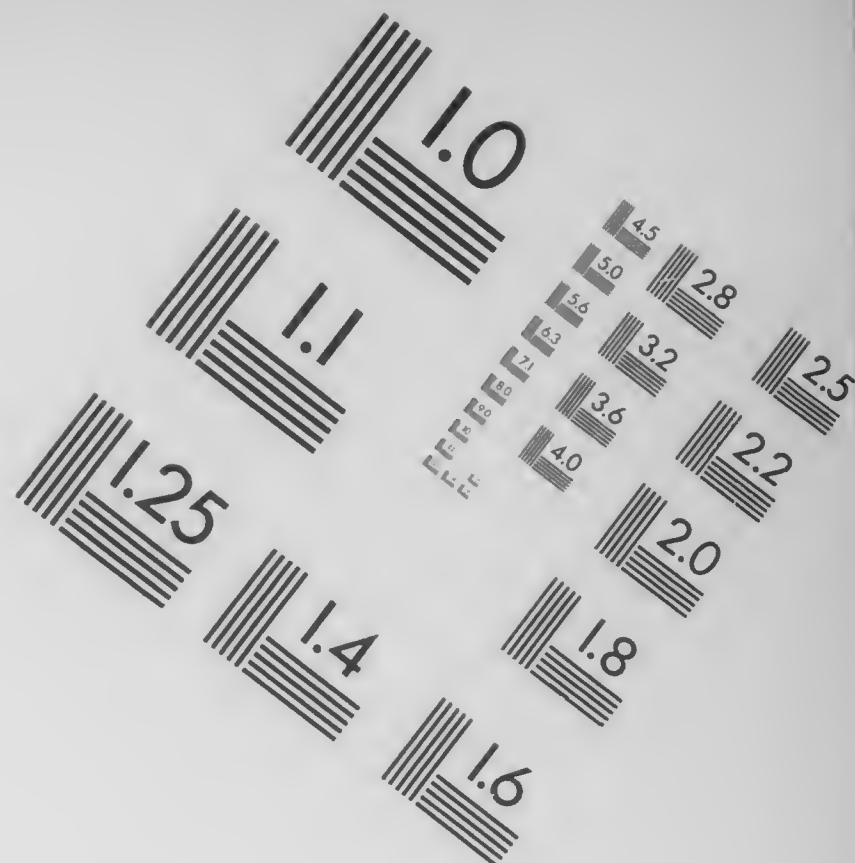
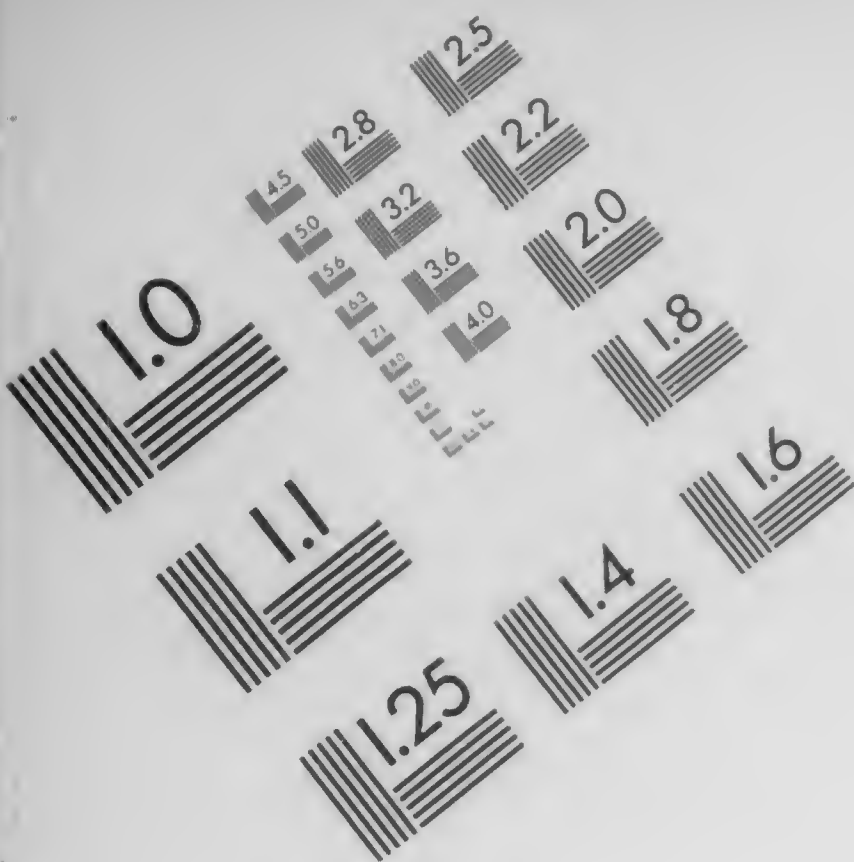
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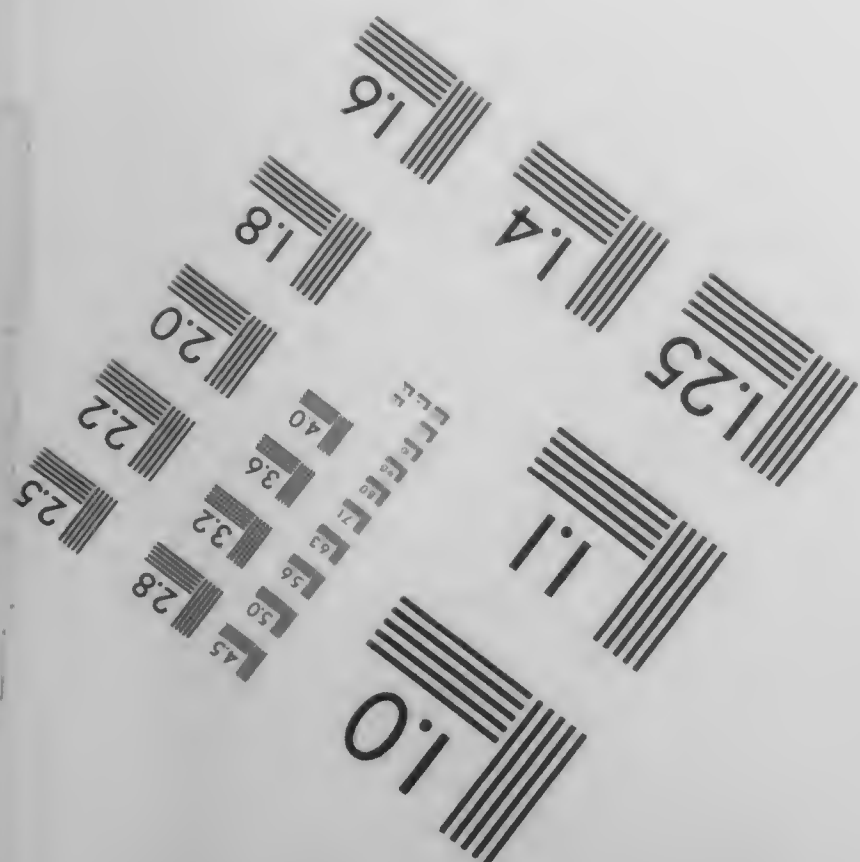
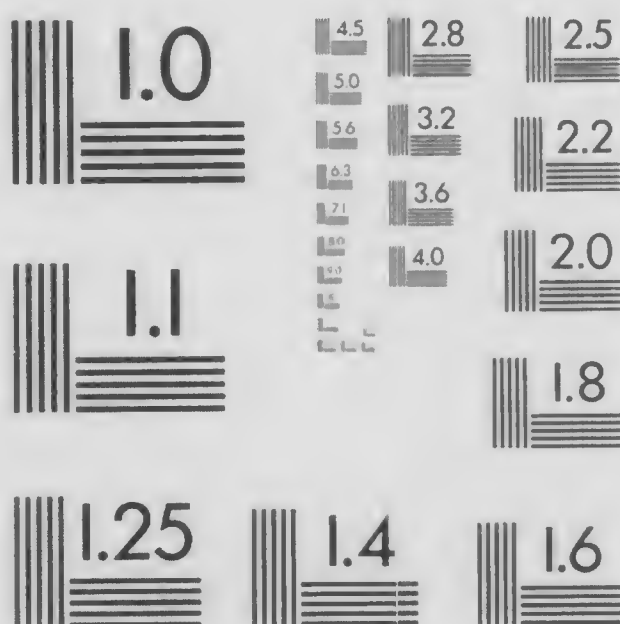
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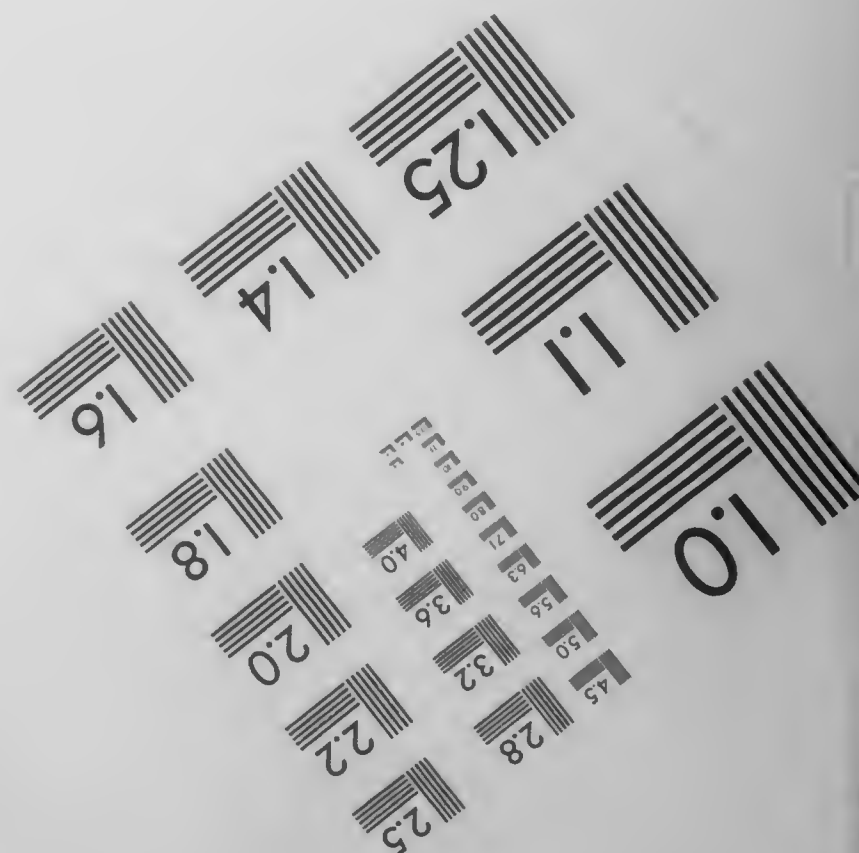
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Principle of Sufficient Reason:

Its Metaphysical and Logical
Formulations

BEING

A DISSERTATION PRESENTED TO THE PHILOSOPHICAL
FACULTY OF THE UNIVERSITY OF LEIPZIG
TO SECURE THE DEGREE OF DOCTOR
OF PHILOSOPHY

BY

WILBUR MARSHALL URBAN

1897

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THE HISTORY OF THE PRINCIPLE OF SUFFICIENT REASON: ITS METAPHYSICAL AND LOGICAL FORMULATIONS.

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CHAPTER I.

INTRODUCTORY.—THE PROBLEM.

The following essay may be looked upon as an attempt to show, by means of a historical study of the development of the principle of Sufficient Reason, the standpoint occupied by the modern German logicians, as contrasted with the Epistemologists of the metaphysical schools. As the title indicates, the nature of the principle has completely changed in the development of post-Leibnitzian thought. In its origin, conceived of as extra-logical, as metaphysical and as identified with the causal axiom, it has finally been accorded the place of basal law of the logical consciousness and only secondarily connected with the real relations of causality.

The extension of the bounds of the logical consciousness, involved in this transformation, the critical determination of the relation of metaphysical to logical principles resulting from such a development are both phenomena characteristic of the modern "Erkenntniss-theoretische" logic.

It is the writer's notion that the achievement of these characteristic standpoints is in great part the result of reflection upon the nature of this Law of Ground, variously formulated as metaphysical and logical, and that a conscientious study of the history of the principle would throw much light upon the growth of our broader view of logic.

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In addition to this, the writer was much charmed with the elements of clearness and unity which Schopenhauer, despite his many metaphysical sins, was enabled to give to his thinking by following the guiding thread of the specific yet far-reaching problem of Sufficient Reason. And what is true of Schopenhauer in so great a degree, may be said with more or less truth of all the great philosophers since Leibnitz. How should we have so clear a notion of Kant's chapter upon the "Grundsätze der reinen Verstandesbegriffe" if he had not gathered them all under the one principle of ground? Without Herbart's "Methodologie," which has the problem of ground and consequence as the main object of his dialectical interest, the rest of the "Metaphysik" were scarcely understandable.

The *connexio rerum* is the great problem of metaphysics, the *connexio idearum* the last question of logic in its broadest sense, and in no way have the mutual relations of the two been so subtly elucidated as in the critical study of this basal principle of Sufficient Reason.

Starting then with these two ideas, on the one hand, if possible, of showing the fundamental place of the principle under consideration, in the philosophical systems of the more important Post-Leibnitzians, and secondly of discovering in the development of the law likewise the development of the modern concept of logic and its problems, my study has produced the following essay.

A short preliminary chapter upon the Pre-Leibnitzians, attempts to show the conditions out of which Leibnitz's quite original formulation of this entirely new principle arose. Leibnitz is treated with considerable detail with the desire of showing that his formulation discloses the presence of two motives, one which tended to formulate the law as a logical principle, the other, the one which finally predominated being metaphysical, reduced the problems of the grounds of knowledge to a metaphysical determinism.

The succeeding history of the principle is then conceived to exhibit three main stages:

1. The metaphysical formulation of Sufficient Reason, from Leibnitz through Kant and Schopenhauer.

2. A struggle between metaphysical and logical attitudes in Herbart and Trendelenburg.

3. The logical formulation in the modern logicians, Sigwart, Wundt, &c.

Two questions which may arise, why, on the one hand, the study is limited to German thinkers, and secondly, why Fichte, Schelling and Hegel are omitted, are answered simply:

By the consideration of the fact that the problem, as limited by our study, is exclusively German, the only extra German thinker who has handled the technical problem of Sufficient Reason being the Kantian, Sir Wm. Hamilton; and secondly, the immediate Post-Kantians, especially Hegel, represent no new phase of the problem, but rather a return to the conditions against which Leibnitz's formulation arose as a protest, the pre-critical, pan-logism of the Spinozistic type.

The following study is then concerned with the interplay of these two distinct motives, the logical and the metaphysical, or rather perhaps with the two ways of defining the principle of Sufficient Reason. This is the basal law of all knowledge, this Law of Ground, and according as it is conceived as extra-logical and metaphysical, or on the other hand as the most general law of logic, is our whole theory of knowledge affected.

The argument of the succeeding historical study is briefly that the origination and first formulation of the principle in Leibnitz's thinking, represents a stage of inconsistency in which both motives, both attitudes stand in more or less contradiction, and that the succeeding movement at first manifests a decided trend toward the metaphysical side, to be replaced in more modern thought by the reformation of the logical point of view, broadened and changed.

I. Leibnitz's origination of the principle of Sufficient Reason is found to have arisen out of a protest against the

general trend of previous thinking toward a reduction of empirical causal relations to logical grounding, as typified in the pan-logism of Spinoza.¹ As a consequence S. R. is conceived as purely empirical and extra-logical.² Since its validity is not grounded in general logical considerations, Leibnitz seeks to ground it in his peculiar metaphysical system the *Monadologie*. The metaphysical causality of the monadic development being the ground of empirical happening, Sufficient Reason is identified with the Causal Axiom, thus rescuing the Causal Axiom from a purely logical treatment, but setting the current in the direction of a metaphysical formulation of the new principle.³ The logical consequence of this identification of causation with S. R., that S. R. be conceived as a principle of determination, just as the logical norms, Leibnitz did not admit, but insisted that this law was only one of *sufficient* reason instead of determining ground.⁴ At this point Crusius takes up the problem substituting "determinateness" for "sufficiency" and distinguishing besides the ideal grounds, two distinct kinds of real metaphysical grounding, the grounds of will acts and the causes of empirical happening. The problem of "determinism," in the moral sphere, thus forces the metaphysical side of the problem into the foreground.⁵

The advent of the critical philosophy of Kant, represents, strange as it may seem, on one side at least, a further development of this metaphysical treatment of S. R. He maintains the idea of Crusius that the law of ground is a principle of determination and not of "sufficiency," and accepts the "determination" element in the judgment of ground and consequence as a necessity to be metaphysically grounded.⁶ For the knowledge of this determining ground outside of logic a *transcendental* principle of knowledge other than logical is then necessary.⁷ Though denying the possibility of an ontology of the real, he proceeds to ontolo-

¹ cf. §§ 18, 19.

² cf. § 19.

³ § 22.

⁴ cf. § 22.

⁵ cf. § 27.

⁶ cf. § 32.

⁷ cf. § 34.

gize this most fundamental of knowledge principles. It is conceived of as *extra*-logical and *tran*-scendental.¹ Finally Schopenhauer defines it as *meta*-logical and as the transcendental knot of the Subject-Object relation, which likewise marks its most complete divorce from a logical point of view, since an Intellectual Intuition of metaphysical relations is substituted for the logical thinking of ground and consequence.²

II. What we have been led to call the *logical motive* for Leibnitz's formulation of the new law of knowledge, is expressed in this great thinker's attempt to formulate its place in relation to logical laws. As we have seen, it was defined as extra-logical, in view of the formal and yet metaphysical theory of logical necessity against which the new law arose as a protest.³ And yet this very protest indicated a desire to extend the narrow bounds of the logical consciousness beyond its formal limits, so as to include all knowledge processes. Leibnitz's most general definition of S. R. is at the same time the most general definition of the logical consciousness as conceived to-day.⁴ And besides logical necessity among ideas clear and distinct was conceived to be the teleological goal of the confused ideas of which S. R. was developed as the empirical law. This inherent possibility in the Leibnitzian thinking of extending the concepts of logic in such a manner as to include Sufficient Reason as a basal principle we shall call the logical motive.

In the Leibnitzian school itself Wolff showed a tendency, in contrast to that of Crusius, to include Sufficient Reason as a distinct logical principle, side by side with Identity and Contradiction. But his attempt to deduce S. R. from the other two laws led back to the formalism and ontological way of looking at things against which Leibnitz had protested.⁵ The critical philosophy of Kant, notwithstanding the fact that on one side it is but a continuation of the metaphysical tradition, nevertheless represents a stage in

¹ cf. § 40.

² cf. § 51.

³ cf. §§ 20, 21.

⁴ cf. § 21.

⁵ cf. § 26.

the development of the modern logical consciousness, and the corresponding treatment of S. R. as the basal law of that consciousness.¹ Although S. R. is still identified with the causal axiom, it is with the causal axiom as a knowledge principle, rather than an ontological principle that Kant is concerned. In fact the Law of Ground is found only by a deduction from the logical categories² (causation being derived from the hypothetical judgment.) It is because of this critical balance of Kant, which sees that S. R. is essentially a relation of logical ground and consequence, although it is transcendental; in other words, because Kant remains within his transcendental logic, that Schopenhauer finds fault, and it is for this that he substitutes the doctrine of Intellectual Intuition.³

From Herbart on, the logical motive makes itself strongly felt. The idea of Sufficient Reason as having for its goal a contradictionless whole of experience and thought,⁴ gives it the place of a universal logical principle to which the formal laws of Identity and Contradiction are subordinated, although Herbart is not able to formulate the law without a metaphysical basis. But already in his concept of the "widened ground," which should include the whole nexus out of which the consequence springs lies the germ of a broader view of logic.⁵ Sufficient Reason, the most general term for all necessary relations in knowledge, has as its main problem the extent of its application to the real, therefore its relation to causality, but it is not identified with causation.⁶

Through the intermediate stages of Trendelenburg and Drobisch, to the former of whom, the concept of logic included the entire phenomenology of the judgment, formal and material;⁷ while the latter, though retaining the concept of a purely formal logic, formulates Sufficient Reason as the basal law of logic,⁸ the modern logic, as represented by

¹ cf. § 41.

² — § 38.

³ — § 53.

⁴ §§ 65, 69.

⁵ § 67.

⁶ § 71.

⁷ § 78.

⁸ § 79.

Wundt, with its recognition of S. R. as basal principle, is finally reached. Sufficient Reason is here the general law of the interdependence of all acts of thought, to which the normative laws of Identity and Contradiction are subordinated.¹ And the question of its relation to causality is now a critical one—that of the relation of the causal axiom to the general logical postulate of Grounding. Sigwart, Lotze and Wundt show the impossibility of the identification of causation and Sufficient Reason, distinguishing between the determining ground as logical and the empirical complex or cause on the other hand as only sufficient.²

The rise of this broader view of logic on account of which Sufficient Reason was again conceived of as purely a principle of knowledge—and not a metaphysical law of the real to be identified with causality was much aided by a new motive which entered into German thought with the advent of the Kantian "*Kritik*." This may be characterized as an attempt to get at the phenomenology of the grounding process. Thus, in addition to the "Objective Deduction" of the concepts of the Understanding, substance and causality, from the logical categories, a "subjective" deduction is added which shall show how, from the nature of our mental processes, such objective judgments are possible.³ It is, as Kant himself says, something of the nature of an hypothesis of causes for the given results in judgment. He has in mind an immanent Sufficient Reason or logical causality working in the processes themselves.⁴ This immanent logical causality includes psychological material elements, and thus is paved the way for a study of the phenomenology of the logical processes and for a broader view of the logical consciousness. This genetic point of view was already suggested by the Leibnitzian theory of a teleological movement of consciousness from the obscure, confused ideas, that is from psychological sufficiency to the necessity of the logical clearness and distinctness of the

¹ § 86.

² §§ 80, 83, 88.

³ §§ 41, 42.

⁴ § 41 and 42.

eternal ideas, but could not come to complete expression, owing to the metaphysical interpretations put upon it by the *Monadologie*. Herbart, who represents a stage of conflict between the metaphysical and logical formulations of S. R., in his conception of the logical ground so widened as to include elements not in the conception as amenable to formal logic, conceives this widening as brought about by chance suggestions, by "Zufälligen Ansichten," thus admitting a psychological element into the process of grounding.¹ Although the logical causality thus suggested is reduced in his system to metaphysical terms, yet it is important to recognize that Sufficient Reason as a principle of knowledge is conceived to be an immanent necessity broader than the necessity of formal logic.

Trendelenburg's theory that logic should be extended to include the material, psychological as well as the formal elements in the judgment, brings the problem of phenomenology to the front. The modal categories of thought, possibility, reality, and necessity are, after the manner of Kant's "subjective deduction," conceived as phenomenological moments in the grounding process, in which the formal and material elements are united.² It is especially Trendelenburg, who, against the psychological doctrine of "Zufall" in the grounding processes develops his doctrine of the teleological nature of all grounding processes.³ They are a "wahres Geschehen" under the law of teleological causality, the goal of which causality is Knowledge, including Thought and Being. The postulate of an immanent logic, functioning in all judgment processes, becomes a permanent element in modern Logic, in Sigwart and Erdman.⁴ In Wundt, finally, the concept of a Logical Causality as the Law of Ground in its primary form, governing the higher apperceptive processes, is set over against the empirical applications of this law, the Causal Axiom, in its two expressions physical and psychological causality. The teleological necessity

¹ § 68.

² § 77.

³ § 78.

⁴ § 82.

of our thought processes is the Law of Ground seen inwardly.¹

In conclusion, we may make our object and method clearer by comparing in a general way the present problem with that which König sets himself to solve in his extensive history of the "Causal Problem."² Here, by an exhaustive study, covering two volumes, and comprising a detailed exposition and criticism, the author seeks to secure valid results for the causal concept of to-day. This involves not only the complete metaphysics, but explains the psychological and natural science standpoints of the authors under consideration. The present essay, on the contrary, aims only to show that there has been a continuity in reflection upon this more general and more formal principle of Sufficient Reason; that, in the changes of attitude toward it, now constructing it logically and again metaphysically, and secondly in the way in which natural and psychological causality have been conceived to be related to it, an instructive insight, not blurred by too much data, may be afforded into that somewhat difficult province, the border-land between Metaphysics and Logic. In view of this limitation of the problem, the writer may then hope to be pardoned for what may appear from another standpoint an insufficient treatment of very deep and thorough thinkers.

CHAPTER II.

PRE-LEIBNITZIAN THOUGHT.

§ 1. In order to understand the origin of Sufficient Reason as a general unifying term, under which the more particular problems of the Science of Knowledge might be put forward, as well as to secure an insight into the reasons for its dominance of German thought from Leibnitz to the present day, it is necessary to sketch the general tendencies of pre-Leibnitzian thought.

¹ §§ 91, 92.

² König, Edward, "*Die Entwicklung des Causal-Problems*," Leipzig, 1888.

There are discoverable tendencies toward a unification of the problems of knowledge, which, though general, are yet so evident as to excuse the anachronism, of referring for the sake of conciseness, to expressions of Sufficient Reason before its actual formulation in Leibnitz.

Provisionally, then, it may be said that Greek thinking tended to formulate Sufficient Reason in terms of a naïve real logic of experience. Christian thought, as typified in Augustine, sought it in an introspective determination of the conditions of Belief. The Reason of the former was the certainty of the external Intuition, corrected by a dialectical removal of contradictions; that of the latter the satisfaction and certainty of the subjective intuition of the self.

These general norms being once attained, the tendency was to give them universal validity. Thus, Aristotle is found studying the movements of knowledge and of psychological processes in general under the same categories as external happening. Augustine, on the contrary, can understand historical happening only as the expression of the Divine Will, constructed on the analogy of the experiences of his own subjective willing self and its necessities.

§ 2. The Greek formulation of Sufficient Reason reached its fullest expression in Aristotle,—his doctrine of causation, Lotze calls the first formulation of the Law of Ground. But from this doctrine of causation should not be separated Aristotle's applied logic and the realistic doctrine of concepts which it involves. The two are closely bound together and their unity alone affords the basis for a unitary formulation. The distinction between formal and applied logic, in the modern sense, according to which, as shall appear later, Sufficient Reason is defined as logical, its applications being material, was not yet made. The real concept, as participating in the idea, lends itself equally well to logical forms and causal constructions—on its ideal side to logical formal relations, on its real side to causal construction. To formulate a general law, therefore, the whole sphere of mediate knowledge, lying between the intuition of

perception, "which is for us first" and the intuition of the ideas, "which is in itself first" to use Aristotle's terms, all lying between these two extremes of the immediately certain, requires sufficient grounds for its certainty.¹ These grounds may be determined either by the laws of logic, as developed by Aristotle, or by his fourfold doctrine of causation. The important point is that in either case the concepts dealt with are real, as well as rational, and the conclusions either of the principles of logic or of the laws of causation are unquestioned constructions of the real. No deep-rooted distinction is made between the logical and the causal side of thought, because the deeper distinctions of the subjective and objective had not arisen. The lack of this distinction between formal logical thought and concrete real thought is characteristic of a unitary metaphysical point of view. It is the naïve rationalism which, though it may distinguish between ideal and real grounds, makes no essential break between them.

§ 3. From the very beginning of Greek thought this naïvely rationalistic attitude toward reality was marked. All attempts to solve the problems of Being and, especially, of Becoming, which arose to challenge this attitude, were characterized by the use of concepts which contained already the presupposition of their reality. The *νοῦς* of Anaxagoras, the logical principles of Zeno, Identity and Contradiction, the number system of the Pythagoreans were not handled as principles of knowledge but as directly analysed out of reality. And when Plato became convinced of the dualism between the material and ideal world, the essential rationalism of Greek thought prevented him from taking the step which would to modern thought necessarily follow, of distinguishing between real cause and ideal ground. The ideas are made the causes of material things and are called causes,² and even force is ascribed to them by means of which they are able to work upon us and make themselves known.³

¹ *Analyt. Post.* 7, p. 100, b. 13.

² *Phædo* 95, E.

³ In the *Phædrus*, where Plato's doctrine of Ideas first appears, it is confined to moral ideas.

This brings with it a complete confusion of ideal and real grounds.¹ The ideas are both causes and grounds for the knowledge of the real of perception, of which, without the mediation of the ideas, there is no knowledge but only belief.²

For the knowledge of this world of appearance the ideas must be taken into service. But they in turn can only be known in an intuition out of time.

§4. In Aristotle there is no material change in the general conception of the essential sameness of logical ground and real cause. As we have seen, the validity of the causal and logical laws alike rests upon the reality of the general concept. Thus Schopenhauer has gathered together in his historical sketch numerous quotations in which a logical premise is called cause, *αἰτία* being used for every sort of ground.³ Logical thoughts as well as psychological phenomena are looked upon as a real happening subject to the same construction as other external movements. One difference may be distinguished however. The ideas as pure form, in Plato's sense, are no longer looked upon as causes either of perception or of natural phenomena, but Aristotle has reached a critical standpoint from which he is able to see that only the general concept, as containing ideal and real elements in union, may be conceived of causally.⁴ Thus instead of Plato's simple ideal causation arises Aristotle's more complex doctrine of a fourfold causation, of which moving and end causes are the more important. The idea is cause only in so far as it is natural force and teleological end. But although both moving and end cause, are considered principles of Sufficient Reason of Becoming, the stress is put upon the teleological side. The cause is poten-

¹ This confusion is characteristic of a stage where the postulate of ground is not yet recognized, formulated as a basal principle of thought, but only acts unconscious of itself. So all the formulations of Plato appear to us, as Schopenhauer says—"wie der Stand der Unschuld gegen den der Erkenntnis des Guten und Bösen." *Vierfache Wurzel*.—p. 19—cf. also *Philebus* p. 240.

² Uphues—*Psychologie des Erkennens*, Leipzig, 1893. *Anhang*, Par. 7.

³ "*Vierfache Wurzel des Zureichenden Grundes*." § 56.

⁴ Sigwart, *Logik* I, page 394.

tentiality of the effect, because the idea of the effect is considered to be already in the cause. In order, therefore, that a present real might be seen to be the outcome of preceding real conditions, into these conditions was read an idea which rationally could be seen to be the *dunamis* of the present state.¹

§5. If for the sake of clearness we follow the use of a biological analogy, we may call attention to the extremely undifferentiated state of this life-principle of thought—this fundamental motive of Sufficient Reason. In the absence of a sense of the difference even between the necessities of thought and reality, it is still less to be expected that we shall find a strong sense of the difference between the necessities in different spheres of reality—or between subjective sufficiency and objective necessity. In fact, these differentiations, in thought as in material development, appear only as the result of tedious processes. To the first of these differentiations, the source of the distinction between subjective and objective necessity, our attention must now be turned.

§6. In addition to the naïve rationalism of Greek thinking, a second ingredient found its way into modern philosophy, a force which, though less obtrusive, is perhaps equally to be reckoned with—namely, the subjective psychological doctrine of belief of Mediæval thought, as formulated in Augustine. This, as has already been suggested, sought the grounds of real judgments in an introspective determination of the subjective conditions of belief. And the norm, according to which external realities are judged, is the certainty of the subjective intuition of the self. Belief, which according to Plato and Aristotle lay outside the sphere of knowledge,² becomes the very presupposition of knowledge. *Credo ut intelligam* is by no means merely a theological axiom, but locates the problem of the grounds of

¹ Ueberweg und Heinze, *Geschichte der Philosophie*, 7th Edition, Vol. I, page 203. Aristotle *Anal. Post.* 87, b, 31.

² Cf. § 3.

knowledge in the subjective assent which accompanies all judgment.¹

§ 7. This subjective assent or belief, which is evidently in the first place psychological, is, however, conceived by Augustine to be grounded. It is with the nature of this grounded sufficiency that we are alone concerned. That something appears in consciousness is certain. Our doubt can only extend to the nature of that something.²

Now, that which is given to us most certainly and really is the consciousness of self, not as a metaphysical substance, but as a willing, believing, doubting self—even the last element of doubt making the certainty of the self presence more absolute, as Descartes likewise argued. The self is the source of all assent—and the certainty of the self the norm of the certainty in our assent to other realities.³ Thus he argues; reality must be discovered within us to be afterward extended to the external world—for that to which we give our subjective assent of the will is, as Augustine with insight expresses it, “our life.” “That which later ripens into knowledge must first be grasped by faith; who disdains faith will never be able to raise himself to knowledge.”⁴ Self-certainty is then the norm according to which assent is given to the reality of the elements that enter consciousness.

§ 8. But the important question arises how may this subjective certainty, arising out of the assent of the will, which Augustine believes to be prior to our extension of knowledge to the external world, be conceived to be valid also for external reality. At this point the Will Metaphysics of Augustine enters, together with his Theism. The Will of God, as ground of the world, made after the pattern of the Eternal Ideas (a neoplatonic element in his system), is the source of our will, as part of the world, and therefore works

¹ “*De Praedestinatione*”—sec. C, 2—“*Ipsium credere nihil aliud ist quam cum assensione cogitare. Non enim omnis qui cogitat, credit, cum ideo cogitent plerique; ne credant; sed cogitat omnis, qui credit et credendo, cogitat et cogitando credit.*”

² “*Contra Academ.*” III, c, II.

³ “*De beata Vita*,” 7, II.

⁴ “*Tract.*,” 36 in *Ev. Joh. n.*, 7.

upon the finite will, determining our subjective assent or disbelief. Thus is our belief in the truths of the external world a direct function of our subjective assent. And for Augustine there is really no causality except that deducible, theologically, from the nature of the Will of God, and no knowledge except that vouchsafed to our subjective belief.

§ 9. The reason for our treatment of the Augustinian doctrine of assent, is that it is a typical expression of an important element of subjective grounding, taken up into later philosophy, especially the Cartesian. It expresses, too, the exactly opposite standpoint from the Aristotelian, in that while the reality of the general concept is in the former taken for granted, here concrete subjective reality is the starting point. They are alike in this, however, that as in the former the grounds of logical knowledge and causes in reality are not distinguished, because the reality of the general concepts is the basis of both, so also in Augustine the grounds of truth as discovered in assent, just as the grounds of external reality, are in both cases ultimately to be found in the will of God.

Thus reconstructing Augustine's theory of Sufficient Reason in modern terms, it might be said that to him, whatever satisfies the demands of the Will for the real, and is taken up by the transcendental belief, without which the inner life is impossible, *is true*. Whatsoever can be shown to be grounded in the Will of God is real. In both cases the grounds are ultimately the same.

§ 10. This Formulation of *Ratio Sufficiens* is, at bottom, the expression of the whole mediaeval intuition of the world. As Dilthey expresses it “Weiter als Augustinus hat kein mittelalterlicher Mensch gesehen.” What followed was but an impossible attempt to graft the Aristotelian rationalism of concepts upon this Will metaphysic—but it remained always “fremdes Gut.”

The Realists sought to find concepts which by their very definition would include their reality, concepts which thus by the mere application of the Aristotelian syllogism,

would build a whole system of objective truth; but these very concepts of the religious consciousness were in reality but products of the religious belief that Augustine had grounded, and were capable of no more scientific proof. This tendency reached its culmination in the famous Anselmian proof of the existence of God. Against this movement appeared, from time to time, the Nominalists, who by means of the weapons of scepticism, sought to retain the doctrines of belief grounded on the old Augustinian Will metaphysic. The final conflict was fought out between Duns Scotus and St. Thomas,—of whom the former was Augustinian and the latter Aristotelian. But already in the 13th century men had begun to speak of a "Two Fold Truth," for which there should be two entirely different instruments of investigation, one for theology and another for secular sciences. Thus began to arise among the scientists a mechanical doctrine of causation, which later in modern philosophy should supply the *Ratio Sufficiens* of Becoming, of *existendi*, which, as we have already seen, failed entirely in the thinking of Augustine.

§ 11. Descartes' theory of grounding represents, as has already been suggested, a union of the Aristotelian and Augustinian standpoints, a union which from the point of view of clear critical thought, it must be admitted, brought only confusion. Although to modern critical insight, they both, Aristotle and Augustine, represent extremes of objective and subjective treatment of the problems of knowledge, yet each is thoroughly consistent. With the former logical forms and causal relations are equally of the warp and woof of objective reality, a premise is the cause of a conclusion and from a given result the necessary cause is thought, not discovered. Augustine, on the contrary, with a subjectivity as naïve as Aristotle's objectivity, reduces knowledge to belief or assent which is a function of the ethical will, but not content with finding the grounds of knowledge in the subjective will, finds it impossible to construe objective causation otherwise than as a function of the divine will. Conse-

quently all causes with Augustine are at bottom moral causes, as witness his doctrine of history.

§ 12. The union of these two standpoints in the Cartesian thinking may be expressed as follows;

1. *Objective Causation is reducible to logical grounding*—for causation is the term for the interaction of substances and their attributes, and the relation of substance and attribute is logical. This depends upon the Aristotelian and Scholastic theory of the real nature of the general concepts called metaphysical substances.

2. But the *reality* of these general concepts, upon which logical grounding and, consequently, objective causation rests, is in turn subject to a psychological grounding, after the Augustinian fashion.

For Descartes starts his reflection from the very same point of certainty of the self-intuition, as the outcome of doubt, which characterized Augustine's thought. From the absolute doubt, with which the "Meditations" begin, Descartes is led back to certainty of the self—but not by a reference to higher logical *criteria* as in the process of knowledge. "*Cogito ergo sum*," if of the nature of a logical syllogism is a *petitio principii* of a logical law not yet grounded, but if of the nature of an intuition (which is undoubtedly the right interpretation) has simply the character of subjective belief. Descartes now makes use of the self-intuition in a way entirely unwarranted, for this subjective belief is made the criterion of logical clearness and distinctness. Everything that comes to consciousness, *si clairissement et si distinctement*, as the self-intuition is valid, says Descartes, ignoring the difference between the clearness and distinctness of the self-intuition and of logical and real relations, and failing to see that the *criteria* of the latter can only be logical and real relations themselves.

This mode of procedure, when put in practice by Descartes, discloses a series of real ideas, which become the last grounds of knowledge and of the real. In addition to the idea of the self or *res cogitans* as the ground of all phe-

nomena of consciousness, we intuit the idea of a *res extensa*, or objective substance with equal necessity, and as equally real, and as the ground of both the "most real" idea of God.

Thus is developed Descartes' doctrine of a hierarchy of real concepts, as far as a theory of objective grounding is concerned, Aristotelian, but itself ultimately grounded in the subjective belief of Augustine.

§13. The consequence of this for his doctrine of Causation is important. "The most perfect knowledge," says Descartes, "is the knowledge of results out of their causes. The highest point of philosophy is therefore to explain things on the ground of the knowledge of God as their creator." This last sentence is the logical consequence of a position which he himself carefully defines in his argument against Gassendi.¹ In the cause *all the reality of the result* either formally or immanently (*i. e.*, either the same realities or others that are more perfect) must be contained, for there can be in the result no more reality than in the cause." All causal relations, then, are reducible to logical relations among the *modi* of these most real substances. For because of the substantiality of these most real ideas, their logical relations must equal real relations. Thus both the Aristotelian and Augustinian elements in Descartes lend themselves to a theory which excludes empirical causality as such, and the concept of causation is reduced to that of logical grounding.

§14. And since in the actual application of this logical causal principle the last *criterion* must be the clearness and distinctness of subjective certainty, the Sufficient Reason of Knowledge is in the last analysis subjective. And now enters the peculiar element of the system. As the metaphysical ground of this subjective certainty, God the absolutely real and veracious, is conceived to be the final warrant and Sufficient Reason of its truth. The concept of God, however, was itself only discovered as most real through this subjective certainty and belief. The ontological proof of the divine existence is but the clothing of

¹ "Meditationes in Prima Philosophia," III.

a religious postulate in false logical forms. Between the objective logical and causal world, the world of mediate grounding, and the world of subjective assent or belief, exists a chasm in the Cartesian thought which has not been bridged, and which constitutes what has already been described as an unassimilated union of the objectivity of Aristotle with the subjectivity of Augustine. Not only is real causal happening reduced to logical grounding, but the latter in turn to subjective sufficiency.

§15. This break, then, in the very middle of the Cartesian Theory of Knowledge, shows the problem before modern philosophy, to be that of the relation of the subjective and objective sides of Sufficient Reason, of knowledge and real ground. As we shall see, it had its first definite answer in Kant, though by no means a final one.

We may, in the second place, see in this contradiction between psychology and logic, the germs of the two distinctly opposite movements that followed: The rationalistic doctrine of mediated ground is carried out into a complete identification of *causa* and *ratio* by Spinoza, with an absolute neglect of the subjective side.

§16. On the other hand, the intermediate sphere of logical causation appears to Malebranche an unassimilated term, and the subjective satisfaction is brought into immediate relation with the objective Will of God, to the exclusion of the intermediate sphere of phenomenal ground and consequence. The phenomena are simply occasional causes by means of which God satisfies the desires of the subject. Thus, he says poetically, "Every idea of the human consciousness is a prayer of the will which God satisfies with its consequence." On the other hand, every idea in my consciousness is the immediate product of the Will of God. We need only remark that this, in its essence, is but the "Willens Anschauung" of the Middle Ages, and that the possibility of such a return (logically) from Descartes shows how imperfect was his break from a purely religious intuition of the World.

§17. The second movement of Spinoza is, however, an absolute break, in that it is built upon the rationalistic germ in Descartes, which was the Classical element in Christian thinking, the one unassimilated element in its World-intuition. With him the confusion of *causa* and *ratio* was complete. Because the form of the ontological proof is logical and, thus, of the nature of the principle of mediate grounding as developed by Descartes, he extends the form of Sufficient Reason between phenomena and the objective thing in itself without any question whatever, neglecting the subjective postulate element in the Ontological Proof. Thus Spinoza's Pantheism and determinism become, properly, only the realization of Descartes' Ontological Proof, and that which Descartes took, ideal and subjective as the ground of *knowledge* for the existence of God, (requiring a corresponding real cause) was, for Spinoza, real. The concept of God not only must have its real counterpart, but it is God himself. The whole of philosophy is thus a logical relation of concepts—and neither the problem of a real object to which they correspond or a subject to whom they are sufficient truth, is at all in question.

Schopenhauer's study and criticism of Spinoza is a complete exposition of this confusion, and in default of space for further study, we must refer to him.¹ For us only the main outlines are of importance.

CHAPTER III.

ORIGIN OF THE PRINCIPLE—THE LEIBNITZIAN.

§18. The outcome of the entire preceding trend of thought was, as we have seen, to reduce the problem of causation to one of logical grounding. That grounding, being metaphysically conceived, involved an identification of the ideal ground of knowledge with the material relations of cause and effect. This essential lack of distinction between logical and real grounds, arose from the Aristotelian doctrine that real con-

¹ "Vierfache Wurzel," Par. 8.

cepts are alike the data of logic and causal judgments; it was strengthened by Augustine's theory of a hierarchy of subjective certainties or reals, in which real and ideal terms are contained without distinction and reached its fullest expression in Descartes and Spinoza in an absolute confusion of the nature of logical and real relations.

§19. Leibnitz's thinking, then, in so far as the postulate of *Sufficient Reason* and its origin, are concerned, arose as a protest against this reduction of causality to logical grounding. But it is against logical grounding hypostatized to ontological validity, rather than against the essentially logical nature of the grounding process that he protests. As has been pointed out in the introduction, there is still considerable discussion concerning the interpretation to be given to this original principle of Leibnitz. He himself defined it as applying distinctly to empirical truth, to *vérités de fait*, in contrast to the *vérités éternelles*, concerning which he believed logical deduction gave complete and absolute truth. To appreciate the place of Sufficient Reason in his theory of knowledge, it is important to understand the full force of this distinction. Without going fully into the metaphysics of the Monad, it will suffice for our understanding of his theory of knowledge to call attention to his doctrine of the Monad as a self-determining developing real, in which the present state is always the presupposition and ground of each succeeding state so that one knowing the entire present of the Monad could tell its past and future. Since, however, the inner happenings in the Monad form the basis of all external empirical happenings whatsoever it follows that a dynamic law of monadic development, must in some sense or under some different aspect, become a law of empirical happening. The determination of the first sphere must be ground of the determination in the second. Now the self conscious Monad is the one in which the principle of Sufficient Reason manifests itself as a law of knowledge, and, as a matter of fact in the form of a postulate or demand growing out of the very nature of this determination. This demand, as expressed in

the "*Principia Philosophia*," that all acts of knowledge shall have sufficient grounds, that is, in terms of the "*Monadologie*," that every state of the self conscious Monad must be determined, is further expanded to read, "no fact can be considered true, no judgment held as true, if a satisfactory ground can not be found, on account of which it is thus and not otherwise, although these grounds are often unknown to us." (Also Fifth Letter to Clarke §125.)¹

§20. Thus worded, the principle is undoubtedly logical, that is logical in the broad sense that it is a universal postulate or principle of all knowledge. As such it must be conceived equally as the general law governing judgments concerning the *vérités éternelles* and judgments regarding the *vérités de fait*. And this seems to be the only possible conclusion in regard to a principle stated so broadly and generally as the Leibnitzian Law. If Sufficient Reason demands simply that every judgment should have a reason sufficient to explain why it is so and not otherwise, this should also include the judgments of formal logic, as well as mere judgments of empirical fact. It was a logical motive in the truest sense which led to the formulation of such a general law of all knowledge. Why then did Leibnitz place it side by side with the logical principles of Identity and Contradiction—as far as validity is concerned, but confine it as a material principle to matters of fact, to *vérités de fait*?

§21. The answer to this question is simple. Side by side with the logical motive which led to the formulation of such a general principle of knowledge, psychological and metaphysical motives equally strong arose which prevented a complete and consistent expression of the logical principle.

I. The distinction between the eternal and empirical truths, inherited from Descartes, rests upon a psychological distinction between clear and confused ideas, which Leibnitz connects very closely with his doctrine of the Monad. Now it is just with the sphere of the "confused ideas," in-

¹ "Ce principe est celui du besoin d'une raison suffisante, pour qu'une chose existe, qu'un événement arrive qu'une vérité ait lieu."

cluding the cases (mentioned by Leibnitz in the formulation already given) where the grounds are not known at all, that the new law of Sufficient Reason is to be concerned. Here the formal logical laws do not hold, because a ground cannot be such logically if it is not known, or even not clear. Leibnitz had in mind, then, a principle which shall supplant the laws of Identity and Contradiction in a psychological sphere where these do not hold. It is clear, then, why Leibnitz places the law of Sufficient Reason side by side with those of formal logic, without giving the former the place of a logical principle. It is in his system of knowledge principles, extra-logical, but merely because the concept of logic is narrowed to its formal side. It is to include just those unclear confused elements of our knowledge which are not amenable to formal logical principles, but which are notwithstanding, subject to law. A new light is thrown upon the problem when we consider that the dynamic of the Monad consists in the raising into clear *apperceptive* consciousness of relation just the *petites perceptions*, the confused ideas for which Sufficient Reason is the law. And the goal of this development is *logical* clearness and distinctness, so that a continuous movement from the psychological to the logical consciousness is the ideal of knowledge. There is no doubt that Leibnitz himself grasped the profound import of this idea of a teleology in the very heart of knowledge processes, but he failed to draw the necessary conclusion that the whole process must be conceived as logical, and the concept of logic extended to include it all. He came near to the idea of teleological movement in the apperceptive processes, which might be seen to be the very heart of Sufficient Reason—and thus to the idea of a logical causality in apperception, later developed by Wundt, but he remained bound to narrow views of the logical consciousness, which excluded this profound insight.

§22. II. Failing, thus, because of a metaphysical psychology to extend Sufficient Reason to the whole knowledge process, formal logical and sub-logical, and thus to achieve

an early definition of the logical consciousness, which has in later times become so important, he falls back upon his metaphysics of the Monad, and formulates Sufficient Reason as a metaphysical extra-logical principle. It is identified with causality. This metaphysical identification of Sufficient Reason with the causal axiom marks an important point in the development of thought. On the one hand, in that the new law, and therefore the causal axiom, are conceived as extra-logical, a bar is set to that logical ontologism of Spinoza which reduced causal necessity to logical grounding. On the other hand, this same interpretation of the law as extra-logical demands a new metaphysical grounding of the causal axiom, which should show Sufficient Reason to be a principle of determination of the real, as formal logic is of mere concepts. This demand Leibnitz did not fully recognize, but conceived his principle as one of "sufficiency" rather than "determination." With the criticism of Crusius and Kant upon the term "sufficient reason," and their substitution therefore of the idea of "determining ground," the metaphysical motive in force in Leibnitz's thought found its logical conclusion.

§23. But we have yet to consider the nature and extent of the latter's metaphysical grounding of his new principle. The secret of that lies in the doctrine of the Monad. For the sphere of the confused and unclear ideas is not only psychological but also metaphysical in its import; the movement from the confused to the logically clear ideas, the basis of his theory of knowledge, is only conceivable as necessary, on the basis of the metaphysical necessity of the determination of the Monad. And since the internal happening of the Monad is the metaphysical ground of external phenomenal relations, the identification of the basal law of that happening, causation, with the basal law of the inner movement of the Monad, Sufficient Reason, is logically necessary.

§24. While at bottom a metaphysical principle, it is easily conceivable from the foregoing how S. R. in Leibnitz may appear now as the outcome of a logical motive, and

again as the result of psychological considerations. It was natural that the first formulation of a principle so general, and yet so capable of exposing the last roots and problems of knowledge, should be uncertain in its distinctions. But the state in which the problem was left was perhaps one most calculated to attract to it the attention of future thought. If Sufficient Reason is a new principle of knowledge, of validity for a sphere of ideas not amenable to the norms of formal logic, what is the relation of formal logic to knowledge in general? Must not the bounds of the logical consciousness—that is the consciousness concerned with necessary relations among ideas—be extended beyond the sphere of formal logic? This was the problem which lay inevitably in the origin of Leibnitz's principle.

§25. But again the impetus to new metaphysical formulations offered by Leibnitz's origination of his new law was immense, and sufficient to obscure the preceding problem of the possible extension of the concept of the logical consciousness. For consider that in the place of the belief in the ontological validity of the results of purely formal logic, which had begun to wane, there was now offered the problem (and the apparent means of solving it) of a metaphysical determinism other than logical. Thus was inaugurated the great problem of the transcendental grounding of experience and of its great postulate, the law of Sufficient Reason. This involved the Idealistic position of the identification, not of the logical ground with the real ground, but of the transcendental knowledge grounds with real grounds, the identification of phenomenal reality with the knowledge of that reality. This logical consequence, though not carried out to the completeness attained by Kant and Schopenhauer, is yet clearly enough implied in Leibnitz's thinking. Thus (in the Letters to Clarke, §125) the metaphysical universality of the law is clearly taught. It is the principle alike of external happening and of the inner life of the Monad, and again the highest concept of the source of the principle is that of the Creator, "in welchem die Macht die die wirkenden Ursachen

schaft und die Weisheit welche die Zweck-thätigen ordnet, sich vereinigt finden."

The difference between Leibnitz and his rationalistic predecessors is this: He, too, postulates an intellectual world ground, with the Christian coloring—believing that it must be found eventually in the Will of God. He, too, believes that the ideal of knowledge is logical necessity expressed in the two positive norms, Identity and Contradiction. But the problem of Knowledge he finds not so simple, and in order to encompass all possible empirical knowledge a third principle is necessary, which he formulates in the general and negative way that we have seen. It is general in that it is a postulate, that *all* things must have a reason and a cause. It is negative in that in its empirical application the postulate demands, not that our knowledge proceed by identities and lack of contradictions in concepts, but by admitting to the body of our knowledge only such facts and judgments of facts that have a sufficient reason.¹ The validity of that sufficiency he further proceeds to ground metaphysically, as we have already seen. That he should have confined the postulate of Sufficient Reason to empirical truth is not surprising, nor that he should have failed to distinguish the logical from the metaphysical aspect; that he had insight enough into its logical nature to make it coördinate with the long established norms is what stamps him as the originator of a new era in philosophical thinking.

§26. Wolff follows Leibnitz with the attempt at a complete *logical* expression of Sufficient Reason although it still lies in the sphere of "Ontologie" or metaphysics. In the "*Vernünftige Gedanken von Gott, der Welt und der Seele*,"² we are told that while equally with the principles of Identity and Contradiction, that of Sufficient Reason lies in the nature of men, yet "Leibnitz war der erste seine Wichtigkeit zu erkennen, dass nemlich alle veritates contingentes oder alle zufällige Wahrheiten aus diesem Satz als ihren ersten Quellen fliessen, ja vermöge desselben, die contingentia ihre

¹ cf. also a similar negative formulation by Kant, §§ 36, 39.

² §30.

'veritatem determinatam' haben, vermöge dessen sie ein unendlicher Verstand vorher wissen könnte."

But to the rationalistic mind of Wolff it appeared that if "ein unendlicher Verstand" knew these verities beforehand, they must be of the nature of logical relations. So that the attempt is made to secure the place of Sufficient Reason as a logical law, and this, by means of deduction from the law of Contradiction. This occurs in "*Ontologia*" (§§66-70.) A thing has either a Sufficient Reason or it has not. In the last case it must be granted that there is something which has nothing for its ground. But out of *nothing* can *something* never be known. Baumgarten repeats the same proof in *Metaphysics* § 20. The *petitio principii*, as well as the confusion of real and knowledge ground, is evident, and it is upon the failure of this proof that Crusius (as we shall see) takes his stand for his own point of view. The meaning of this attempt to prove logically what Leibnitz had considered in the light of a postulate is evidently nothing else than a falling back into the rationalism against which the new law had risen as a protest. What had been with Leibnitz a postulate of the necessary *Zusammenhang* of the world in the broadest sense, and of our ability to understand the same, becomes with Wolff a claim for the logical determinism of the things which make up the world of contingency.

To be sure Wolff had distinguished between four principles of Sufficient Reason¹—*cognoscendi*, the logical deduction of conclusions from premises; *fiendi*, from which grounds we discover the reality of a thing; *essendi*, from which the possibility of a thing is seen (relation in space and time); *agendi*, in the ground of which we see the necessity of an act. But with all his important distinctions which later figure so materially in the history of the principle, he never left the rationalism which belonged to his intuition of the world, for in the last analysis the grounds are always determined logically,² and grow out of the Scholastic definition of the "thing," as made up of logical characteristics.

¹ *Ontologia*, § 866.

² *Ontologia*, § 951.

§27. The study of Sufficient Reason in the "*Entwurf der notwendigen Vernunft-Wahrheiten*," 1753, by Crusius is of the nature of a weak protest against the Wolffian point of view.¹ Wolff had defined philosophy as the science of the *possible*, thus making its criteria purely logical, all that could be thought without contradiction being of course possible. This covered his whole view of Sufficient Reason. Crusius protested against this by defining Philosophy as the Science of the Real.

A ground to be Sufficient Reason shall not suffice merely if it involves no contradiction, but it must so show the relation as to make it evident that with the ground the consequence is necessarily *given*. How does it affect reality, if the opposite can be thought? The *existence* of the *opposite* cannot be thought of, if the existence is once known to be a real fact.² Thus the distinction made by Wolff between the absolute necessity of thought and hypothetical necessity which is found in the law of ground in contingent reals is false, and arises out of the subjective relation thereto.³ All necessity is absolute, but not all logical and capable of being expressed in terms of knowledge. This point is weighty, for his two great contributions to the problem are:

a. His clear distinction between the different spheres of the functioning of Sufficient Reason, especially between the real and ideal grounds, and:

b. His especial study of the problem of the ground in the sphere of the Will.

In regard to the first, he complains of the changeable meaning applied to the term ground, and especially the failure to keep separate the ideal ground of knowledge and the real ground, a distinction only suggested by Wolff and not carefully adhered to. "Hierdurch (Vermischung) wird nicht nur die Aufmerksamkeit auf das wahre Wesen derselben verhindert, sondern auch zu der Übereilung Gelegen-

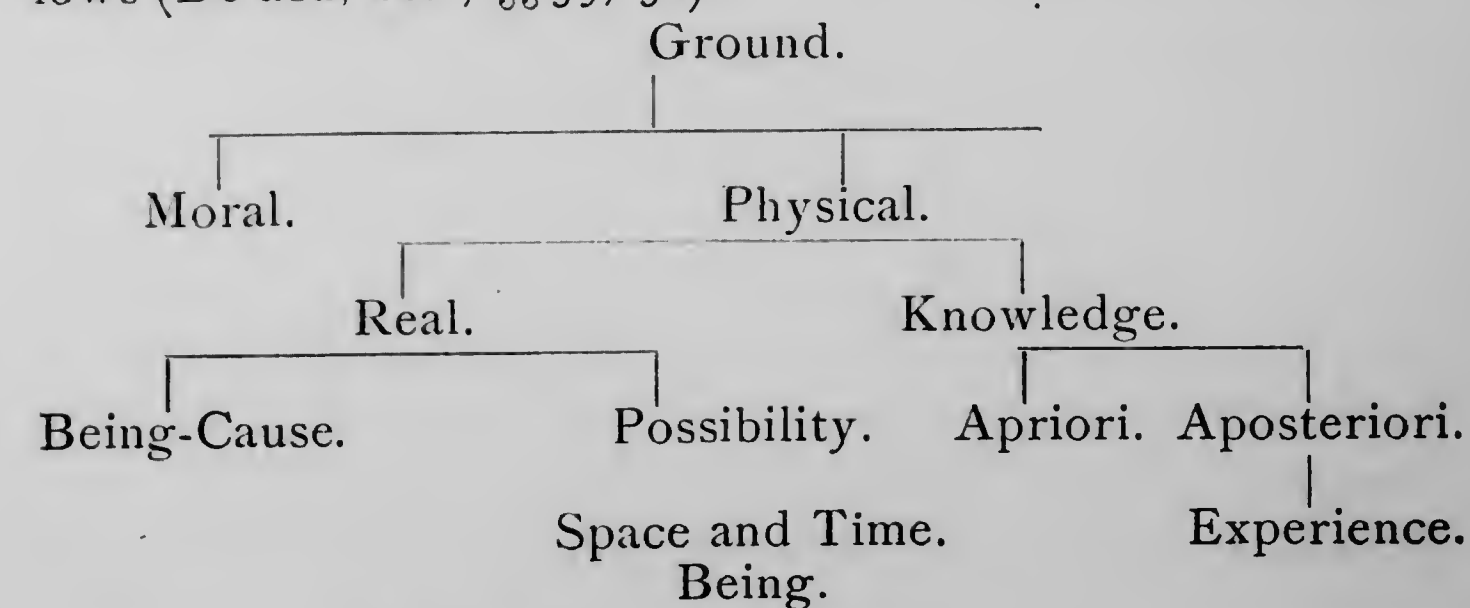
¹ Reimarius—"Die Vernunftlehre" §120—also stands for a separation of the metaphysical application from its application as a logical principle.

² *Dissertatio Philosophii de Usu et Limitibus Principii Rationis Determinantis vulge Sufficientis*. Lips. 1743, § 6.

³ *Entwurf der Not. Wahr.*—VIII. Cf. also Kant §39.

heit gegeben, vermöge welcher man annimmt dass alle wahrhaft zureichende Realgründe auch zugleich zureichende Erkenntniss-gründe *apriori*, sein müssten."¹ This simply means that as far as the Principle of Sufficient Reason is to be applied to the real, one can only say a necessary "*Zusammenhang*" exists, according to laws, but in no way does the rationalist's postulate follow that their relations may be known as logically expressed. It is not a problem of the knowledge-ground of the rational possibility of a thing, but a postulate of *real* and *necessary* relations among things.

§28. Having thus separated the knowledge or logical problem from that of real grounds, he next divides the sphere of the latter into two great main divisions, the *moral* and *physical* real. This, it must be remembered, rose out of his moral and religious problem of the freedom of the will. In the physical sphere we have two aspects of the real ground; first, the real ground as *cause*, to explain the problem of becoming; and secondly, the real ground as possibility, in which, like Wolff, he brings to light the space and time conditions of empirical judgments, as the conditions of the possibility of the *real* or the "law of ground" of being. This was later developed into the Kantian modal category of the Possible, the *criteria* of which are formal. His schematism is, so to speak, the setting of the great problem of Sufficient Reason which later occupied the minds of Kant and Schopenhauer. It may be expressed somewhat as follows (De usu, etc., §§ 35, 36):



¹ "*Entwurf der Not. Wahr.*" Chap. 3, § 38.

§29. The problem of Sufficient Reason in the sphere of Morals or of the Will, is his chief question, and is kept carefully distinct from the physical sphere. But here again must be distinguished carefully between the ideal and real ground, for we are tempted to consider the idea which we call motive, (the idea which is the ground of our being conscious of a *will* act,) the real cause or ground of that act. This is false, for it is foolish to ask for grounds of an act of will, for it is simply the nature of will to act as it wills. Thus he champions the doctrine of Augustine and Scotus that the Will is independent of the "Vorstellungen," not, however, indeterminism, for the law of ground lies in the Will itself. To ask for its ground in an idea is to confuse knowledge and real grounds, for will is real and force. The proof of this position we need not give, for it rests upon certain errors concerning the definition and relation of the ideas of substance and force, and an application of the same to a metaphysic of the will in an unjustifiable manner. Sufficient for our historical study is it to notice that for the Will, as well as for simple Being, is postulated a peculiar law of ground which dare not be identified either with causality or Ideal ground.¹

§30. In summing up the Leibnitz-Wolffian movement, we may describe it as having three moments:

(a.) Leibnitz propounds the Principle of Sufficient Reason as a postulate of empirical knowledge, extends it in some of his formulations to a general logical principle—thus extending potentially the sphere of logic beyond the bounds of the formal. Not being able to achieve the full formulation of his logical motive, he finally secures universality for his new principle by yielding to the metaphysical demand which identified it with the universal causal determination, developed in his system, grounding it on his *Monadologie*.

(b.) Wolff attempts to restore the principle to the place of a logical law, but through his limited notion of logic and the attempt to deduce Sufficient Reason from the principles of

¹ cf. König—"Die Entwicklung des Causal Problems," Chap. on Crusius.

Identity and Contradiction, he falls back into Pre-Leibnitzian Rationalism. (c.) Crusius, in protest against Wolff's Rationalism, excludes the law entirely from logic, and develops the metaphysical motive of Leibnitz still further.

CHAPTER IV.

THE KANTIANS. SUFFICIENT REASON AS THE BASAL LAW OF METAPHYSICS.

§ 31. As has been already suggested in the introductory chapter, the metaphysical motive in Leibnitz's formulation of Sufficient Reason which sought to ground the validity of the principle in extra-logical considerations and which was carried out in Crusius' construction of the law as a principle of metaphysical determination rather than of "sufficiency" for knowledge, finds its continuation in Kant and Schopenhauer. The characteristic of this entire metaphysical movement was already prominent in Crusius. Besides the distinction between ideal and real grounds, there is a further differentiation of different classes of real grounds, namely, a) those of the Sufficient Reason of Being as afforded by the relations of space and time, b) of Sufficient Reason of Becoming, in the relations of Causality, c) the grounds of Will acts. This metaphysical differentiation of real grounds into three distinct classes, becomes prominent, because the essentially unitary and logical nature of the law sinks out of sight.

This unitary nature of the Law as a knowledge postulate both Kant and Schopenhauer seek to restore, the former by what, following Schopenhauer, we may call Transcendental Logic, the latter by his doctrine of the Intellectual Intuition, both of which are in their essence metaphysical principles.

§ 32. *Kant*. Kant may be said to have had as the problem of his entire thinking, the nature of philosophical grounds. For his starting point was given him by the Leibnitzian school, and in the particular problems of Crusius. In the

"*Nova Dilucidatio*" (or fully given, "*Principium primorum cognitionis metaphysicae nova dilucidatio*") 1755 (Kant's Habilitation's Schrift), beside the laws of Identity and Contradiction is considered the "*Satz vom Grunde*."

With Crusius Kant agrees that the term sufficient ground ("zureichender") is weak and chooses "determining" ("bestimmender") instead. Moreover, he is unsatisfied with the definition of Wolff, that the ground is that "durch das voraus mehr sei als nicht sei." It explains nothing for "voraus;" means simply "aus welchem grund."¹ Thus if the only determining ground is that its opposite can not be thought, this is only ideal or "*nachher bestimmenden Grund*" and not "*vorher bestimmenden*." It answers the question of the "*quod*" and not of the "*warum*." On the basis of this distinction between "*vorher*" or "*antecedenter*" ground and "*nachher*" or "*consequenter*," he insists upon an absolute determinism for the former or real ground and justifies this thorough-going determinism against the attacks of Crusius, who complained that it made impossible the freedom of the will. Upon the basis of distinction of real and ideal ground, Crusius had maintained that to consider an idea, cause or ground of an act of will is to confuse real and ideal grounds. This "idea" (Vorstellung) is the Sufficient Reason, as far as the knowledge of the act is concerned, but it cannot be said that it is determining for the individual Will itself. Will contains a law of ground, but a law of its own, for "durch das blosse Setzen der Willens Thätigkeit alle entgegengesetzten Bestimmungen ausgeschlossen werden; folglich ist ein vorher bestimmenden Grund nicht erforderlich."²

Kant answers with a keen psychological analysis of the Will and its functions, showing that there is a distinction between the impulse or desire which is the determining ground of the will act and our idea of the same which we use as an ideal term of the knowledge of will acts. Thus particular impulses and desires are the motives or grounds of the decisions of the Will, although they are to be included in the

¹ § 190.

² §§ 199-203.

Will itself, and so the postulate of the Law of Ground is fulfilled, which demands that every event shall have its Sufficient Reason or determining ground.

§ 33. Kant's next step is in the direction of a closer study of the Law of Ground in things—the principle of causation. In 1763 appeared the paper entitled "*Versuch den Begriff der negativen Grössen in die Welt-Weisheit hinein zu fügen*," in which is to be seen the working of the second force brought to bear upon Kant, namely, the Humian criticism. Wolff had taken the empirical postulate of Leibnitz and given it such a logical turn that all its applications were made through the logical principles of Identity and Contradiction, to the latter of which he had tried to make it subordinate. Kant sees that in the sphere of the real these principles are not applicable. For in actual nature a negative force in relation to a positive (and in fact, positive and negative functions in general) do not constitute a contradiction. Though both positive in their nature, they do not annul each other as in logic. Thus Wolff in the "*Vernünftige Gedanken*" had taken the figure of Archimedes' Scales as an intuitive proof of contradiction and Sufficient Reason in relation to each other. An exact balance is an intuitive contradiction of positive and negative. Now, if one side sinks, the contradiction is destroyed and there must be a *ground* why that side has sunk rather than not. Taking this same figure of the scales, Kant shows that no logical analogy exists, and that one cannot speak of the two sides being in contradiction, but rather are both to be considered causes in producing an entirely different condition, namely, the new state of the balance of the scales. Thus, likewise in the sphere of morals, plus-crime and minus-crime do not equal zero, nor do pain plus pleasure equal zero, but produce an entirely new mental state. He concludes, therefore, that the problem of causation or of real ground lies entirely outside the sphere of formal logic.

§ 34. It is, however, in the "*Grundsätze des reinen Verstandes*," that most clearly written chapter of the entire

Kritik, that we have at the same time the full expression of Kant's doctrine of Sufficient Reason and the source of Schopenhauer's formulation, with which we shall later be concerned. After considering the law of Contradiction as the supreme principle of analytical judgments, Kant asks the question: What is the supreme principle of synthetic judgments? To this the answer is: the Law of Ground.¹ That Kant thus identifies the Law of Ground, the principle of empirical judgments, with a synthetic function of mind rather than with the analytic procedure of logic, is in harmony with the metaphysical motive of Leibnitz, which sought an extra-logical validity for the principle of Sufficient Reason. In further asking the question, how synthetic judgments *a priori*, without logical grounds, are possible Kant is obeying the logic of the motive and seeking a metaphysical source for the validity of the extra-logical law. The ontologizing of this fundamental law is the Transcendental Logic of the Kantian *Kritik*.

§ 35. The *general* Law of Ground Kant formulates as follows:² "Ein jeder Gegenstand steht unter den notwendigen Bedingungen der synthetischen Manigfaltigkeit der Anschauung in einer möglichen Erfahrung." That experience be possible, it is necessary that in the complexes which make it up, necessary and universal conditions or laws of ground exist, by which each element may be held in its proper place in the whole. What then are the particular principles in which the general law expresses itself? They are, according to Kant, four:

¹ *Kritik der reinen Vernunft*, (Reclam), p. 202, 1781 Edition. Kant closes the chapter on the "Grundsätze" with these significant words: "In Ermangelung dieser Methode" (which has just preceded—and which we shall give below) "und bei dem Wahne, synthetische Sätze, welche der Erfahrungsgebrauch des Verstandes als seine Principien empfiehlt, dogmatisch beweisen zu wollen, ist es denn geschehen, dass von dem Satze des zureichenden Grundes, so oft, aber immer vergeblich ein Beweis ist versucht worden. An die beiden übrigen Analogien hat niemand gedacht (Gemeinschaft des Seins und Causalität des Werdens) . . . weil der Leitfaden der Kategorien fehlte, der allein jede Lücke des Verstandes, sowohl in Begriffen als Grundsätzen, entdecken und merklich machen kann."

² Reclam Edition (1781), p. 155.

- I. Axiome der Anschauung,
- II. Anticipationen der Wahrnehmung,
- III. Analogien der Erfahrung, and

IV. Postulate des empirischen Denkens überhaupt. That which Kant states in his general formulation—that the condition of any experience whatsoever is a supersensuous transcendental relativity of all the phenomena of experience, a general law of ground and consequence throughout all mental content, he proceeds to develop in the particular spheres of phenomena. The axioms of the Intuition demand that relations of space and time, transcendental and extra-logical, be present, if we are to have empirical knowledge or experience at all. The analogies of experience, of which the principal cases are the Causal Axiom and the concept of Substance, afford the transcendental grounds for empirical judgments of relations. Causality is the typical expression of the law of ground among phenomena and changes the intuition of temporal succession into a synthetic judgment of the Understanding because by reason of it we are by analogy enabled to say *a priori* that if a certain relation of ground and consequence has appeared in experience, when the cause again appears it will, under the same conditions, produce the same effect.

§ 36. The law of ground, then, according to the Kantian definition, embraces all principles of relativity, universal and necessary, which underlie our empirical judgments, and make them valid. This validity, which, as we have seen, like Leibnitz, he conceives to be extra-logical, is established first in a negative way, in that without these transcendental principles of relativity, empirical knowledge is impossible. It rests upon the postulate of the necessary unity of apperception in consciousness, which presupposes unity of experience to all possible empirical consciousness at any time. Thus we have the Law of Ground in causation as a *sine qua non* of a unity of experience, or of the subject-object relation in general.¹ This is what Schopenhauer means when he says:

¹ Reclam, p. 172, Part II.

"experience is through and through causality." It (causation) objectifies subjective ideas, renders possible the representation of objects, it assigns to each phenomenon, as a consequence, a determined place according to the Law of Ground, in what would otherwise be a merely psychological flow of ideas. It renders unified experience possible. The apparent *petitio principii*¹ involved in the claim of the universal validity of causality for all experience, because it alone makes experience possible, disappears when we reflect that experience in the two cases is different. It (causation) is universally valid for all particular experiences. It is, however, the condition of experience in general, transcendental experience.

§ 37. In addition to the negative argument, that without these transcendental principles of necessary relativity empirical knowledge is impossible, Kant seeks a more positive grounding of the necessary relations of phenomenal reality. The question, how are synthetic judgments *a priori* possible is answered by the Objective Deduction of the categories, which we have called the Transcendental Logic. Relations of space and time, which Kant describes under the general terms of *Gemeinschaft des Seins*, relations of causality, or the *Causalität des Werdens*, are the true principles of Sufficient Reason of reality. Upon these mathematical and causal judgments rest. But these, Kant complains, had remained undiscovered, because his predecessors had sought to prove the validity of the Law of Ground by subsuming it under the principles of formal analytical logic. This was especially true in the case of Wolff. It did not occur to them to follow the guiding thread of the categories which govern our synthetic judgments, and which point to transcendental roots.

The manner in which Kant connects all the empirical principles developed in the *Grundsätze* with the Aristotelian categories of logical relation—the criticism which this forced architectonic has brought upon him need not detain us here. We need only consider the idea which dominated it and its application to the two empirical expressions of the Law of Ground developed above.

¹ "Satz vom Grunde," § 23.

§ 38. The principles of necessary relativity in space and time which are expressed as community of Being (*Gemeinschaft des Seins*) and causality, are deduced from the two important categories of reality and necessity, the categorical and the hypothetical judgments. At first sight, it would seem that the Law of Ground is recognized as a formal logical principle, but in reality this cannot be said to be true. The truer view is that these logical forms are the *conceptual expression* of transcendental principles which govern the empirical judgments of space, time, and causal relations. By following them as a guiding thread we may reach the transcendental conditions of knowledge; they themselves are only conceptual signs. In other words it is in their metaphysical significance that they constitute the Law of Ground. This is Kant's Transcendental Logic. For the hypothetical judgment, as a formal relation of concepts, is an analytical procedure, says Kant, as a transcendental logic of experience, it is synthetic. This distinction Kant brings out clearly in a later essay "Ueber die Fortschritte in der Metaphysik seit Leibnitz und Wolff."¹ The one great advance he insists lies in the fact that the Law of Ground has become entirely metaphysical and has ceased to be subsumed under the logical laws.

§ 39. Still more clearly is its relation to logic stated in the reply to Eberhardt's criticism of his "*Reine Vernunft*,"² where he maintains that the purely logical law, "Ein jeder Satz muss einen Grund haben," is clearly subordinate to "Contradiction." The Sufficient Reason whose principles we have studied is entirely outside the norms of logic, is the Sufficient Reason of empirical reality—and as such metaphysical in its essence. In thus developing a transcendental Law of Ground for empirical reality, of the same validity as the logical norms for the sphere of pure concepts, that has been found for which Leibnitz in vain sought—an explanation of the necessity of empirical knowledge.

¹ Complete Works, Hartenstein Edition, Vol. VIII., p. 538.

² Hartenstein, C. W. VI., p. 10, "Ueber eine neue Entdeckung nach der alle Vernunft Kritik entbehrlich gemacht werden soll."

The distinction between the logical postulate of Ground and Consequence, and the metalogical principles of transcendental validity which give necessity to phenomenal relations is the cardinal point of Kant's thinking from the standpoint of the study in hand, and remains, as we shall see, an unsolved dualism in his theory of knowledge.

Having confined the logical Law of Ground to the formulation, "Ein jeder Satz muss einen Grund haben," Kant finds the corresponding postulate of the transcendental logic expressed in what he calls the chief postulate of empirical thought in general, "*In mundo non datur hiatus, non datur saltus, non datur casus, non datur fatum.*" This postulate is the underlying condition of all experience, and expresses the necessity inherent in the forms of space, time and causality already considered.¹

§ 40. The metaphysical tendency in Leibnitz's formulation of the law is thus carried a step further. The impulse which led Kant in his early essay to substitute, in agreement with Crusius, "determining grounds" for "sufficient reason," and upon the study of Hume, to separate absolutely the necessity of formal logic from that of empirical knowledge, leads him to a metaphysical construction of all empirical determination and to ground this determinism, not in an ontology of the real, such as the Leibnitzian Monadism, but in an ontology of our knowledge processes, which has been called the Transcendental Logic.

We may therefore formulate Kant's doctrine of Sufficient Reason as follows: The Law of Ground is the fundamental postulate of empirical knowledge, "das oberste Principium aller synthetischen Urtheile," in that it demands that every phenomenal element shall have a necessary phenomenal ground. The empirical expressions of that law are the necessary relations of space, time and causality. Since,

¹ As a result of the whole study we find these words of Kant, as the rule of empirical investigation: "In der empirischen Synthesis nichts zuzulassen was dem Verstande und dem continuirlichen Zusammenhange aller Erscheinungen d. i. der Einheit einen Eintrag thun könnte. Denn er ist es allein worin die Einheit der Erfahrung in der alle Wahrnehmungen ihre stelle haben müssen, möglich wird."

however, the Law of Ground is merely a phenomenal principle, necessity only a subjective postulate, empirical reality and the knowledge of that reality fall together, and the law of ground is likewise a principle of real necessity—in other words, a metaphysical principle metaphysically grounded as we have seen.

It is however, and this is an important proviso, only by following the "Leitfaden" of the logical categories that the necessary empirical relations are discovered. Thus, while the Law of Ground is not confined to the formal logical expression of the postulate "ein jeder Satz muss einen Grund haben," it is nevertheless *logical* in its essence, in that in all the phenomenal manifestations of the principle, the axioms of the spacial and causal world, logical dependence is the transcendental concept which underlies them.

§ 41. From this two important results for historical consideration follow:

1. A distinct movement toward a development of a broader view of the logical consciousness is discernable. Though Kant defined the Law of Ground or Sufficient Reason as extra-logical and transcendental, it was only such in so far as by logical the formal logic of concepts was meant. That he recognized the logical kernel in the Causal axiom, and even tried to find it in spatial and temporal relations of coexistence, indicates his appreciation of some of the problems of logic in its broader sense. Thus by means of a subjective deduction of the categories which should be of the nature of a "psychologische Ergänzung" to the objective logical deduction, and which should show how "das Vermögen zu denken selbst möglich Sei was gleichsam die Aufsuchung der Ursache zu einer gegebenen Wirkung sei," and "insofern etwas einer Hypothese ähnliches an sich habe,"¹ Kant sought to show, by means of the psychological phenomenology of judgment, how the Law of Ground was equally the basal law of the intuitional and conceptional ele-

¹ *Kritik der R. V.*, introduction to first edition. Cf. also Natorp, *Einleitung in die Psychologie, nach Kritischer Methode*, p. 128.

ments in knowledge, holding them in a unity, which alone made empirical knowledge possible. This meant, however, the extension of logical validity and necessity to empirical judgments as well.

It is, however, by virtue of the transcendental logic of the categories, that function in the Intuition and the Understanding, that this conditional necessity exists. The Transcendental Logic without the content of the intuition could not give necessary relations of the "Intelligible World," nor could necessary relations of the empirical world be found in the content of the Intuition alone. "Concepts without intuition are empty, intuition without concepts blind." Concepts and Intuition, "Begriffe und Anschauung" are *together* the sphere of the functioning of the Law of Ground, and its conditioned necessity. Separated, they are incapable of relations of ground and consequence. This principle, which may be called the "Balance of Concept and Intuition" in Kant's formulation of the "Law of Ground" represents his critical position strikingly and is a point of view from which the preceding and following formulations may be studied.

§42. Such a study would show that Kant stands as a critical mediator between two possible formulations of the Law of Ground, that which confines it to the sphere of the formal logic of concepts, to the exclusion of the intuitional side, and that theory which, excluding the conceptual element, makes it a law of the Intuition, "Anschauung." Both of these one-sided developments are dogmatic, and in the historical development which is the substance of the present study, represented by Wolff in the one case and Schopenhauer in the other. The nature of Wolff's (and before him Spinoza's) dogmatism was seen to be the postulating of metaphysical validity for merely formal logical relations of concepts. That of Schopenhauer, we shall see, lies in postulating the validity of the Law of Ground in the simple intuition, independent of concepts. The Transcendental Logic of Kant is beyond both these dogmatisms, and protests against both.

§43. This is the second historical point of importance, this critical balance of Kant between two possible extremes of dogmatism. The Law of Ground is certainly a logical postulate, but it is not a principle of merely formal logic. Secondly, while the postulate of ground is not a law of formal logic, it is not therefore unlogical, and non-conceptual, as Schopenhauer later maintained. Already in Kant's life-time an attempt was made to do away with this critical balance of conceptual and intuitive knowledge, held together by the concept of a Transcendental Logic. Eberhardt sought to restore the uncritical philosophy by a doctrine of "Intellectuelle Anschauung" according to which all knowledge of relations is intuitional. It is of interest to us only to see how Kant answers this heresy against the "*Kritik*." In his answer to Eberhardt,¹ (*Ueber eine neue Entdeckung nach der alle Vernunft-Kritik entberhlich gemacht werden soll*," Kant points out very clearly the conceptual logical nature of all relations of ground and consequence, showing that the simple elements in space and time, the point, and the concepts of cause and effect are all abstractions and therefore conceptual in nature. The whole problem is how we shall define "Intuition"—but it is clear to Kant that it is not intellectual in its nature, but expresses only the manner in which we are affected by the unknown thing in itself.

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§44. The classical formulation of the Principle of Sufficient Reason is the "*Vierfache Wurzel des Zureichenden Grundes*."

¹ Hartenstein, *Kant's Complete Works*, Vol. VI, p. 18. "Die einfachen Elemente der Anschauung liegen völlig ausserhalb der Sinnlichkeit," are intellectual and conceptual. It becomes certain therefore that "das Einfache, (der Punkt) als Grund zu der Anschauung in Raum und Zeit, hinzu vernunftelt ist." We have then this dilemma before us—"Eins von Beiden, entweder die Anschauung ist der Anschauung nach, ganz intellectuelle d. i. wir schauen die Dinge an, als sie an sich sind und die Sinnlichkeit besteht lediglich in der Verworrenheit; oder sie ist *nicht* intellectuelle, wir verstehen darunter nur die Art wie wir von einem, an sich uns unbekannten Object afficiert werden." The concept "Intellectuelle Anschauung" is then a contradiction *in adjecto* and arises alone from an attempt to extend Sufficient Reason where it does not belong, i. e., by making it a law of Objective Reality itself, which we intuit.

Historically, however, the differentiation of the four roots or forms of the principle goes back to Crusius, while the content poured into the moulds is entirely Kantian. The points of striking dissimilarity between Kant and Schopenhauer are; a) the manner in which Schopenhauer gives a metaphysical significance to the specialization of the four forms of ground, while with Kant the distinctions were not fundamental. b) The fact that in Schopenhauer the logical nature of the postulate of Sufficient Reason is entirely denied, and consequently a constant war is waged against Kant's Transcendental Logic. c) Schopenhauer's doctrine of Sufficient Reason as a principle of intuitive knowledge instead of logical thought. The tendency of his entire thinking may therefore be summed up as entirely in the direction of a metaphysical formulation.

§ 45. The crucial point in Schopenhauer's doctrine of Sufficient Reason is his theory of the specific nature of the four different kinds of necessities in the relations of space and time, of causality, of logic or conceptual thought and of will motives. It has been the mistake of past thinking, he insists, that, in following the natural impulse to unification, it has been taken for granted that there is only one Law of Ground, and one order of necessity, while in reality, the principle of S. R. is only "ein gemeinschaftlicher Ausdruck für vier ganz verschiedene Verhältnisse,"¹ each of which has its own particular necessity. These four entirely different phenomenal expressions of the law of ground are determined by an inductive study of the ideal content of consciousness. The method of this specification, as he explains in the paragraph on method,² follows the Kantian division of kinds of knowledge (Erkenntnis Kräfte) into Sinnlichkeit, Verstand, Vernunft and Wollen. Kant had indeed followed such a division, and had, as we have already seen,³ developed in the "Grundsätze" the different forms, which the general prin-

¹ "Vierfache Wurzel," § 52.

² "Vierfache Wurzel," §§ 1, 2.

³ Cf. paragraphs 35, 36.

ciple of ground assumes in its empirical use; and before him Crusius had likewise, besides the fundamental distinction between real and knowledge grounds, distinguished among real grounds those of *being*, spatially and temporally determined, of *becoming*, causally determined, of *will*, or motive grounds. But it cannot be denied that what, with Crusius and Kant, especially the latter, was more a matter of schematism and definition, Schopenhauer, in somewhat scholastic fashion, makes fundamental and metaphysical.

§ 46. The development of this theory of the specific necessities of different kinds of relations of ideas, leads to the differentiation of four distinct classes: 1. The relations of space and time, transcendental and *a priori*, are so given in the intuition, that certain relations of points, given in space or time, determine the place of others in the intuitional complex. This is the Law of Ground of Being, and upon it is based the whole of mathematics, geometry upon the spacial and arithmetic upon the temporal necessity. Out of this position the theory naturally follows, and it is one which Schopenhauer maintains with especial interest, that geometrical reasoning is not a logical process, but that its necessity is a matter of intuition.¹ The relation of this theory of the Law of Ground of space and time relations, to Kant's "Axiome der Anschauung" is evident.²

2. Causality, or the Law of Ground of Becoming, is that *a priori* relation among ideas, by means of which "ein unmittelbares, intuitives Auffassen der ursächlichen Verbindung" is possible. Something more than the temporal relations of succession is expressed in the causal judgment. It is the specific necessity of the causal relation, but it is not a conceptual logical postulate reflectively applied to the phenomenal subjective succession, thus giving it empirical

¹ Schopenhauer himself admits, "Welt als Wille, &c.," page 150, that only the recognition, the "*cognitio*" of geometrical necessity, is intuitive. The proof or "*convictio*" is logical. This theory of mathematics is of course now discredited. The best discussion of the problem is in the second volume of Wundt's Logic.

² Cf. § 35.

objectivity, as in the theory of Kant, which we have studied. "Matter is through and through causality," but this causality is already given in the intuition of matter, for matter is defined as ideas in this necessary *a priori* "togetherness." We have not the space to develop further this theory of causation, which comes so near to an identification of causality with mere temporal succession on the one hand, and to a materialistic metaphysic on the other. For our historical study the important thing is the exclusion of the logical element from the causal concept, which is characteristic of Schopenhauer's theory.

3. The third phenomenal manifestation of the Law of Ground is that of the Will in motivation. This is the "Causalität von innen gesehen";¹ that is: the same necessary binding together of ideas, which, from an objective standpoint, we call causality, is from the point of view of subjective worth, experience, sufficiency of motive. Causal necessity expresses itself directly in the subjective grouping of ideas only as motivation of the Will. Both the special theory of the Will developed by Crusius² and the Kantian distinction of the empirical from the transcendental Will were important historical antecedents of Schopenhauer's doctrine. The source of knowledge of the Will causality is, as in the preceding two forms of the Law of Ground, direct immediate intuition.

§ 47. The three kinds of *real* grounds thus described are, according to Schopenhauer, known by us directly in an Intellectual Intuition and are not the result of an application of a logical postulate to phenomena. There is, however, a class of ideas in which a logical principle of ground is discoverable. These are the abstract ideas or concepts. Schopenhauer's nominalistic doctrine of abstract concepts, and the absolute distinction he makes between "Begriffe" and "Vorstellungen" is the basis for the most fundamental differentiation of ideal and real grounds. While knowledge of

¹ "Vierfache Wurzel," p. 163, § 43.

² Cf. § 29.

the latter is immediate and intuitive, the former are discoverable in the norms and laws of formal logic. But since logical processes are confined to the formal manipulation of concepts, out of which the intuitive element of reality is abstracted, they can give no real knowledge. Beside the categories of formal logic, Identity, Contradiction and Excluded Middle, there is another class of metalogical truths, which constitute the conditions of the possibility of all knowledge, in the broadest sense.¹ These are the metaphysical categories of dependence, which function both in the intuition and in conceptual thought. Identity and Sufficient Reason are the typical categories of this sphere.

§ 48. Sufficient Reason he speaks of as a metalogical truth *par excellence*, which functions unlogically in space, time, causality and motivation. It is not only transcendental, but logically prior to all the empirical expressions of the Law of Ground.² Its secret lies hid in that metaphysical knot, the Subject-Object relation, and we can only come to it through "eine Selbst-Untersuchung der Vernunft," which would disclose this truth as the condition of the possibility of all mental life.³ Thus is the unitary nature of the law still retained. Just how Schopenhauer conceives this unitary metaphysical principle is a problem which, when answered, will disclose both his relation to the Kantian formulation and to the question of the logical nature of Sufficient Reason as a universal postulate.

§ 49. Kant, likewise, had defined the Law of Ground, which he calls "das oberste Principium aller synthetischen Untheile," as metalogical in contrast to the analytic nature of formal logic. He defines the general principle as one coex-

¹ "Vierfache Wurzel," § 29.

² Cf. "Vierfache Wurzel," § 35, where he says: "Daher bin ich in dieser Abhandlung bemüht, den Satz vom zureichenden Grunde als ein Urteil aufzustellen, das einen vierfachen Grund hat, nicht etwa vier verschiedene Gründe die zufällig auf dasselbe Urteil leiteten, sondern einen vierfach—darstellenden Grund den ich bildlich Wurzel nenne."

³ But "Könnte das Subject sich selbst erkennen, so würden wir auch *unmittelbar* und nicht erst durch Versuche an Vorstellungen jene Gesetze (metalogische) erkennen."

tensive with the necessary "Zusammenhang" of all phenomenal reality, as was shown by his very broad formulation of it.¹ But, as we have seen, he contended that the law was in essence a logical postulate, developing in the Deduction of the Categories what was called the Transcendental Logic. Schopenhauer, however, denies a logical character to this unitary principle, logic being confined, according to his narrow formal view of it, to only one class of ideas, namely, abstract notions, according to his nominalism, with no relation to reality.

§ 50. The only unitary characteristic which is present in all these specifications of the Law of Ground, these "vier ganz verschiedene Verhältnisse," is the universal form of time. Temporal succession is the last term of all experience, the ever present formal side of every particular expression of S. R. This identification of the general metalogical principle with temporal succession comes about in the following way: Schopenhauer, following Kant, identifies the Law of Ground with the general postulate of a necessary connection among all elements of empirical reality, among all phenomena, and makes it coextensive with phenomenal reality, defining the relation of subject to object in the Kantian manner.² But while with Kant the subjective flow of ideas becomes empirical reality by virtue of the Transcendental Logic (which includes the entire category-doctrine) with Schopenhauer the unitary principle of objectification is temporal succession conceived of as a metaphysical transcendental principle. "Die Zeit ist das Einfache, nur das Wesentliche enthaltende

¹ *Kritik der Reinen Vernunft*, Reclam, p. 155, § 4: "Ein jeder Gegenstand steht unter den notwendigen Bedingungen der synthetischen Einheit des Manigfaltigen in einer möglichen Erfahrung."

² "Vierfache Wurzel," § 16: "Unser Bewusstsein soweit es als Sinnlichkeit, Verstand und Vernunft erscheint, zerfällt in Subject und Object und enthält (bis dahin) nichts ausserdem; Object für das Subject sein und unsere Vorstellungen sein ist dasselbe. Alle unsere Vorstellungen sind Objecte des Subjects und alle Objecte des Subjects sind unsere Vorstellungen. Aber (so müssen wir fortfahren) nichts für sich Bestehendes und Unabhängiges, auch Nichts Einzelnes und Abgerissenes, kann Object für uns werden, sondern nur in einer gesetzmässigen und, der Form nach, *a priori* bestimmbarren Verbindung."

Schema aller Gestaltungen des Satzes vom Grunde."¹ For the Law of Ground to be fulfilled something must always precede, as cause, or warrant, or motive; and this preceding is the formal condition for the finding of a Sufficient Reason for what follows.

§ 51. In finding the universal principle of S. R. in temporal succession, Schopenhauer does not of course mean mere psychological succession. Kant's criticism of Hume had shown that mere succession could not be raised to the necessity of ground and consequence. The alternative therefore is either to accept the logical element, as a postulate thought into the mere temporal succession, or excluding the logical element, to raise temporal succession to a metaphysical principle, and with it the Law of Ground as identical with succession. This Schopenhauer did, and in so doing made Sufficient Reason a purely metaphysical law. Two doctrines naturally follow from this theory:

1. Logical relations are reduced to one of the four specific forms of succession, and made only one of the four principles of ground.

2. Since the knowledge of these phenomenal manifestations of S. R. is not obtainable through logical reasoning, that is in the application of logical postulates to empirical reality, some new principle of knowledge other than logical must be sought. This necessity Schopenhauer's theory was able to meet by means of his doctrine of "Intellectuelle Anschauung." In intuiting ideas in their temporal succession we intuit likewise their necessary relations either as cause and effect, as motive and will act, as ground and consequence. In this doctrine of the intuition of grounds and consequences, we have the necessary outcome of Schopenhauer's theory of Specification.

§ 52. All the elements of Schopenhauer's theory are now

¹ *Vierfache Wurzel*, §§ 46; 143. And again § 52, he calls it: "Der immanente Keim aller Dependenz, Relativität, Instabilität und Endlichkeit in unserem subject-object befangenen Bewusstsein . . . welche das Christentum mit richtigem Sinn die Zeitlichkeit nennt."

before us. On the one hand, the empirical manifold of the Law of Ground, in so far as it is entirely empirical is reducible to the one common term of temporal succession. This common element, empirically considered, contains no principle of determination, however, other than psychological necessity. The peculiar necessities of the three different spheres of Causality, Space and Time and logical relations, are only explainable as expressions of one metalogical or ontological principle of determination, which is the Subject-Object relation itself. This identification of the metalogical Sufficient Reason with temporal succession is only explainable in the light of the general metaphysical system of which Schopenhauer's peculiar doctrine of S. R. is an element. The phenomenal objectification of the Ontological Will, which is at the same time the origin of the world and of the knowledge of the world, is in its first stage temporal succession, and this temporal succession is the logical *prius* of the particular necessities of the different spheres of the manifestation of this primal law. The phenomenal objectification is Sufficient Reason as a metalogical principle. This much of Schopenhauer's Ontology is sufficient to make clear the relative place of the logical Law of Ground and of the causal axiom in his theory.

In that Sufficient Reason is at the same time the principle of the phenomenal objectification and of the knowledge of that objectified phenomena; knowledge and reality are the same process. "Die Welt ist meine Vorstellung," "Object für das Subject sein und unsere Vorstellungen sein ist dasselbe." Causality is an *a priori*, not simply regulative, but constitutive Sufficient Reason of the *existence* of objective reality. "Materie ist durch und durch Causalität."

§ 53. Now Kant had likewise found in the causal axiom, the Sufficient Reason of phenomenal reality—the law of the binding together of phenomena, but as an axiom of knowledge the causal principle was conceived to be partly a logical postulate. The logical deduction of the categories aims to show that though transcendental, they are yet logical in

their essence. This reflective theory of the movement of Sufficient Reason in the temporal flow of phenomena, described by Kant in the "Deduction," was constructed, Schopenhauer maintains, "um innerhalb der Transcendental Logik zu bleiben."¹ This logical standpoint Schopenhauer abandons.² Since objective reality and the knowledge of that reality are the same, a unitary movement of Sufficient Reason in the causal principle, the reflective logical element in the principle of ground is discarded as superfluous, and in its place is substituted a unitary non-reflective function called the "Intellectuelle Anschauung." This Intellectual Intuition then, as an *immediate* perception of the relation of ground and consequence in reality, independent of reflection and logical thought, is a necessary mysticism growing out of the identification of the reality of objective existence and its relations with the necessity of the knowledge of that reality. As a consequence, the whole Kantian attempt to show (in the psychological Subjective Deduction) how the postulate of logical thought necessity may combine with sensational reality in a transcendental material judgment is vain. In the Intuition we have reality and intellectual necessity at the same moment.³

§ 54. This identification of the modal categories of reality and necessity which Kant had distinguished so carefully, is typical for the whole standpoint, and follows logically from

¹ Appendix, "Welt als Wille, &c." Haendel, p. 36.

² König, (*Entwicklung des Causal-Problems*," Vol. II, page 32), makes the criticism that the general principle of Ground is developed merely as a formula for the whole sphere of ideas. Since a Deduction of the law fails both for the general law itself and for the particular cases of the law, it can be looked upon only as an empty formula for a number of incommensurable relations. This must necessarily follow if the essence of the principle, its logical element, is discarded.

³ "Die Welt als Wille, &c." Haendel, p. 17. "Daher auch erregt die anschauliche Welt, so lange man bei ihr bleiben steht, im Betrachter weder Skrupel noch Zweifel; es giebt hier weder Irrthum noch Wahrheit; Diese sind ins Gebiet des Abstracten, der Reflexion gebannt. Hier aber liegt für Sinne und Verstand die Welt offen dar, giebt sich mit naiver Wahrheit für das was sie ist, für anschauliche Vorstellung, welche gesetzmässig am Bande der Causalität sich entwickelt."

his metaphysics.¹ It is the complete negation of the critical standpoint, which has as its chief problem the determination of the relation of the logical to the material elements in the Law of Ground. The critical balance of Kant, is overthrown in favor of a metaphysical dogmatism.

§ 55. Schopenhauer's doctrine of Sufficient Reason was intended to make clear in a technical and scientific way, what his entire philosophical attitude continually implied, namely the insignificance of logical reflection in our knowledge processes. Theoretical logical necessity, he is continually announcing, is but the appearance, the shine of knowledge. The direct intuition in which no contradictions appear is the only real source of truth. Aside from the general weakness of a position such as this, which invalidates the entire logical concatenation of his own system, we are interested chiefly in understanding what, from the standpoint of development, results for our special problem of the Law of Ground, by such a negation of the logical consciousness.

§ 56. If we keep in mind the general trend of our study—that Post Leibnitzian thinking displays an interaction and often struggle between the logical and metaphysical motives, both prominent in Leibnitz's formulation of Sufficient Reason, and secondly that the Crusius-Kantian movement represents a development of the metaphysical motive, it will be clear that Schopenhauer's modification of the Kantian philosophy is the extremest possible putting of the anti-logical tendency. The logical consciousness is reduced to a minimum of range and value. Logic is only formal and, in that it deals only with nominalistic concepts, mere shadows of the real, it has only symbolic value. Not only is the essential logical nature of the Law of Ground denied—but logic ceases to be even an essential side of the Law.

¹ Thus in his "*Kritik der Kantischen Philosophie*," "Alle diese Umstände (die Begriffe Möglichkeit, Ummöglichkeit) daher stammen keineswegs aus einer Geistes Kraft des Verstandes, sondern entstehen durch den Conflict des Abstracten Erkennens mit dem Intuitiven wie man gleich sehen wird"—and again on p. 161, "Demgemäss ist alles Wirklich zugleich ein Notwendiges und in der Realität zwischen Wirklichkeit und Notwendigkeit ist kein Unterschied und eben so keiner zwischen Wirklichkeit und Möglichkeit."

§ 57. This very radicalism of Schopenhauer's doctrine makes it of particular value in the present study—as a crucial and turning point—so to speak, in the development of the principle under consideration. For what is the Law of Ground, if not a knowledge principle—and what is a knowledge principle if not in some way connected with the logical consciousness, and its reflective processes. Again the notion of Sufficient Reason is in contradiction with the idea of knowledge in a unitary Intuition. The relation of ground and consequence, implies the analytical severance of two distinct elements, the ground and the consequence. This analytical abstraction must necessarily result in thinking the ground and consequence conceptually. As Kant says, "Die einfachen Elemente der Anschauung liegen völlig ausserhalb der Sinnlichkeit und sind conceptual."¹ The concept of *Intellectual* Intuition and the relation of ground and consequence are therefore absolutely contradictory ideas, for the latter relation is analytical as succeeding thinking fully demonstrated, while intuition describes a movement of consciousness unitary and synthetic, in which no differentiation of parts arise. Kant then did well in remaining "innerhalb der Transcendental Logic"²—that is in extending his concept of the logical consciousness to include Sufficient Reason—and it cannot be a matter of wonder that he was almost scornful in his condemnation of Eberhardt's doctrine of "Intellectuelle Anschauung" as destructive of all critical thinking. Schopenhauer's negation of the logical consciousness, and formulation of Sufficient Reason as a process of metalogical Intuition is a mysticism which may be very properly called the *reductio ad absurdum* of the anti-logical, metaphysical tendency in the history of the Principle.

¹ Cf. Note, page 41.

² Appendix "*Welt als Wille & Vorstellung*," p. 36.

CHAPTER V.

THE CONFLICT BETWEEN THE METAPHYSICAL AND LOGICAL DOCTRINES OF SUFFICIENT REASON.

§ 58. Schopenhauer's formulation of Sufficient Reason received the preceding full treatment in view of the fact that in several important respects it stands as typical for the whole movement from Leibnitz on, and secondly because it contains the best expression of the contradiction out of which the modern logical theory arose as necessary consequence.

§ 59. Looking backward, it may not be too much to say that this classical formulation stands as a *reductio ad absurdum* of the principle which characterized the preceding movement. For Schopenhauer's doctrine is the most consistent answer to the Leibnitzian demand that a Principle of Sufficient Reason be found for empirical reality that should lie outside the sphere of logic. Leibnitz had in mind a Law of reality itself—and identified Sufficient Reason with causation, but there was also implicit in the idea of Sufficient Reason, a notion of a *new principle of knowledge of empirical reality* other than the logic of concepts. But if we assume a causal law in reality independent of our knowledge,—our knowledge of that causal relation can come about alone in one of two ways, either through logical thought, or through immediate intuition of these causal relations. This contradiction made itself felt immediately in the successors of Leibnitz. Already Wolff champions the logical formulation of the law, while Crusius leans toward a view, according to which our knowledge of causal and will relations is of an unlogical nature, although he does not come to a clear formulation of the nature of that knowledge. Kant again made a synthesis of the two sides, in that instead of the simple "sufficiency" of Leibnitz he demanded a determinism for

our knowledge of empirical reality, but not the determinism of formal logic. In its place enters a doctrine of a Transcendental Logic in which the intuitional and conceptual elements are critically balanced. This temporary balance was necessarily disturbed by the succeeding movements, the Hegelian movement falling back upon the formal side of Kant's Transcendental Logic, Schopenhauer taking the intuitional side to the exclusion of the logical conceptual element. In that the Sufficient Reason of empirical reality is given directly and immediately in the sense intuition, is the Leibnitzian demand first consistently answered—the demand that the principle of empirical knowledge lie outside the conceptual, logical sphere.

§ 60. But in that this stage is reached, is the impossibility of such an answer evident. For the doctrine of an immediate intuition of the empirical Sufficient Reason, once clearly formulated, proves itself to be in direct contradiction to the idea of the relation of ground and consequence—as Kant already protested against Eberhardt, and as fully pointed out in the case of Schopenhauer. This *contradictio in adjecto* in the conception of the intellectual intuition of the ground and consequence is the *reductio ad absurdum*, which shows us the impossibility of a relation of ground and consequence other than logical.

§ 61. After Schopenhauer a marked change is evident in the attitude of thought to our principle, a change which appears as a historically and logically necessary consequence of the failure of the first movement. This change is in the direction of a logical formulation of Sufficient Reason, not logical in the sense that it is subordinated to the Principles of Identity and Contradiction, as with Wolf, but rather in that it becomes the basal principle of logic to which the laws of Identity and Contradiction are subordinated. In this movement two stages may be distinguished: 1. The struggle between metaphysics and logic, as represented in Herbart and Trendelenburg, and 2) the completed formulation of the law as basal principle of logic in Sigwart and Wundt. The

most obvious motive to such a return to a logical view of Sufficient Reason, is the recognition of the impossibility of any other than a logical conception of the relation of ground and consequence. An unusually strong motive is the appearance of a distinct trend toward scientific method in Philosophy. The logical possibility of the relation of cause and effect, and the possibility of a unity of the "thing" among its many attributes,—these are the metaphysical problems which most concern science.

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§ 62. It becomes then the problem of a theory of knowledge, in touch with the new scientific consciousness, to subject the fundamental concepts of science to critical analysis. We are led herewith to a new attitude and a new method in philosophy—which makes itself immediately felt in the new turn given to the formulation of Sufficient Reason in Herbart's thinking. This may be described briefly as a *conflict* between a logical and metaphysical formulation, in so far as the Law of Ground is concerned. Protest against a certain formalism and abstraction in the Kantians, according to which general *a priori* laws of empirical thought, a sort of mechanism, are set over against the concrete activity of mind upon concrete problems of scientific thought, Herbart sets himself immediately to the solution of the problem of the relation of ground and consequence as such. The *Methodologie* or the first part of his *Metaphysik*, is concerned entirely with the Principle of "Sufficient Reason," the third chapter of which he begins with this sentence: "Die erste aller Fragen für den welcher durch Speculation sein Wissen erweitern wollte war unstreitig die; wie folgt Eins aus dem Anderen? Was ist ein Grund? Was heisst eine Folge?"

§ 63. He finds, in answering these questions, that formal logic has failed entirely to show how the relation of ground and consequence is thinkable, since it contains the contradiction of assuming that its concepts are definitely determined

quantities, and yet demands in the Law of Ground that the consequence be something new, else it does not constitute a widening of knowledge. But if the consequence is new, it was not contained in the definitely known concept, called the ground. Thus the principle of ground must as a method of widening our knowledge lie outside the formal logic of definite concepts.¹ This, however, is nothing more than the Kantians had discovered, but their substitutions in place of the failure of formal logic are equally unsatisfactory to Herbart. First of all, the Law of Ground was supposed to be explained when a certain number of *a priori* subjective forms were shown to be the logical pre-suppositions of all experience, but this is a subjectification of the problem which Herbart will not allow, and likewise an unwarranted generalization, for the problem of ground and consequence is always the question of definite empirical relations, of the possibility of one element being thought the ground of the other, and any attempt to deduce these formal relations in experience from *a priori* knowledge forms leads to blindness in regard to the problems of each particular relation.² The problem of knowledge is not how according to the nature of our knowledge functions, it is possible for us *überhaupt* to know, but rather is the world of experience given us in its complex of form and content, and this we must so *reconstruct* as to make it rational.³

§ 64. Equally true is it that the "Intellectuelle Anschauung" fails to answer the problem. Immediate intuition cannot give the evidence which belongs to relations of ground and consequence. To be sure it gives us ideas and relations, which we must hold fast to, although logic threatens to abandon them, but we cannot fall back upon the sloth of "diesen Schwärmern" who will not think the problem through but claim that the relation of ground and consequence is given in the "Anschauung."⁴ The contra-

¹ Herbart's *Complete Works*, edited by Kehrbach. Vol. VIII, §166, p. 15.

² *Complete Works*, Vol. VIII, p. 22.

³ *Complete Works*, Vol. VIII, p. 18. ⁴ *Complete Works*, Vol. VIII, §185, p. 38.

dictions which arise in the immediate intuition must be put aside by logical thought.¹ Historically, Herbart had in mind in these introductory criticisms, besides Kant himself, the logical rationalism of Hegel and the Intuition theory of Schelling's Natural Philosophy, but if Schopenhauer had been a ruling thinker of the time, his intuitional view of the relation of ground and consequence would not have escaped.

§65. The failure of all these thinkers, he continues, has been that they have invariably assumed the possibility of the relation of ground and consequence; and this has been the root of so many profitless generalizations.² An analytical study of the logical possibility of the relation itself is the first step, and from this the conclusion is reached that the principle of Sufficient Reason is first of all a subjective postulate arising out of a contradiction between the intuition and our concepts already developed—a postulate which demands the removal of these contradictions and may be expressed as a demand for a contradictionless whole of experience.³ The possibility of the satisfaction of this impulse, of the solution of these contradictions, lies in the possibility of so extending the meaning of the general concept as to make a new ground, a new complex of ideas in which the contradictory element of experience may be seen to be contained. This concept of the solution of the contradiction between ground and consequence, by widening the ground, is further developed in his so-called "Methode der Beziehungen" of which it is necessary for us to get some notion.

§66. While Herbart, recognizing the contradiction involved in the subsumption of the Law of Ground under the norms of formal logic, denies the sufficiency of the latter, he yet recognizes in the demand of Sufficient Reason for a contradictionless whole of experience, an essentially

¹ *Complete Works*, §192, p. 46.

² *Complete Works*, Vol. VIII, p. 414.—"Meine Untersuchung," he says in his reply to the criticism of Prof. Brandis, "stellt aber die ganze Möglichkeit dass es überhaupt Gründe geben könne, von vorn herein in Zweifel; und hier wenn irgendwo, ist, meines Erachtens, Zweifel der Weisheit Anfang."

³ *Complete Works*, Vol. VIII, p. 23.

logical nature. The problem of his analysis is so to investigate the possibilities of logical relations, so to widen the notion of logical ground, one might say, as to make the relation of ground and consequence a logical possibility. Since the contradiction arises out of the relation of the concrete particular to the abstract concept, the first problem is that of the relation of the two. This is, according to his theory, purely nominalistic. General concepts are but short-hand registers for the real, by means of which the "manifold" of the given may be grasped in a unity.¹ Formal logic can, therefore, of necessity give only schematic relations, in which the manifold of the real cannot be contained without contradictions. But in that these concepts are only symbols they may be changed to suit the requirements of the particulars with which they are in contradiction. The laws of formal logic remain their only governing principles, under the more primal postulate which includes all of experience, for the material side has as its problem the continuous widening of the general concepts to meet the requirements of particular experiences, in order that a logic of concepts may be a logic of reality.

§67. Instead of the principle of Subalternation which determines this relation in formal logic, in the broader view of logical necessity which this doctrine of Sufficient Reason compels, a new principle must be sought. This, the "Methode der Beziehungen," consists in so widening the concept by adding elements, that the consequence may be seen to be necessarily contained in it.² This proceeds by chance suggestions, "Zufällige Ansichten," that is of new possibilities which lie hidden in space and number relations which serve

¹ *Complete Works*, Vol. VIII, p. 15.

² *Complete Works*, Vol. VIII, §§174, 175. Especially the example of the solution of the Pythagorean problem of the right-angled triangle (by dropping a perpendicular upon the hypotenuse, by means of which the concept of the right-angled triangle together with the added concepts developed by the dropping of the perpendicular, form the *whole ground* of the consequence that all the angles equal two right angles) shows the nature of the process, and is in itself proof against the Schopenhauerian theory that ground and consequence are here found by means of *Anschauung*.

as a means of helping on the deduction. "Diese Kunstgriffe enweitem den Grund aus welchem die Folge hervorgehen soll."¹ The conclusion, which is the matter of great importance for an historical study, is simply this: that the ground is never one definite concept but a changing complex of concepts, a system, the dependence of one concept from another being the necessity out of which the norms of formal logic get their material. The Law of Ground is therefore an immanent law of all conceptual interdependence, and as such the presupposition of the analytical laws of Identity and Contradiction.

§ 68. When this theory of Sufficient Reason is contrasted with the Kantian point of view the most striking difference is found to lie in the fact that while the latter, to escape the contradictions and insufficiencies of formal logic, is driven to a metaphysical formulation, in which the logical nature of the law is recognized only as a transcendental element, with Herbart these same difficulties of formal logic are overcome without deserting for a moment the logical point of view, but merely by broadening the notion of logical dependence and by the introduction of the concept of a "widened ground."² This difference is likewise reflected in Herbart's energetic protest against the point of view which assigns to the judgment of ground and consequence a synthetic rather than analytic nature. The analytic of formal logic is continued in the analytic by means of which the immanent relations in the larger ground are discovered, and by means of which the contradiction is solved, for this analytical process must occur as often as our attempt to fasten a relation in thought develops contradictions. In his second letter in reply to Brandis' criticisms³ he points out that it is not the judgment of relations of ground and consequence that is synthetic, but only the immanent dependence or *Zusammenhang* which underlies this judgment. The judgment of ground and consequence is itself analytical.

¹ *Complete Works*, Vol. VIII, p. 25.

² *Complete Works*, Vol. VIII, p. 36.

³ *Complete Works*, Vol. VII, Appendix; also p. 45, § 191.

§ 69. The second division of our exposition is the *application* of this theory of Sufficient Reason to reality itself, or a consideration of the third "Forderung einer Methodologie," that it shall be able to return from its reflexions again to the Given.¹ That is, the "Methode der Beziehungen" must be applied *in general* to a consideration of those chief *forms* in which phenomena manifest their "togetherness," to the typical complexes of the "Schein," to see by the abolishing of contradictions "wie viel Hindeutung auf Sein" there is.² Now the source of these particular contradictions, according to the basal metaphysical principle of Herbart's system, is the necessary contradiction between the unity and independence of real being, and the relativity of empirical phenomena. The fundamental concepts of this latter phenomenal sphere are necessarily full of intuitional sense elements, or better expressed, psychological in their immediate origin. It is the working over of these concepts, in order to free them from the contradictions that arise out of these conditions of their origin, that constitutes the main problem of philosophy. It is therefore not in immediate real relations but in the *possible* to thought that final reality is to be found.

§ 70. We are not so much interested in the "working over" of the particular concepts of Causality, Substance, and Inherence, as in the rôle which the Law of Ground plays in this connection. The characteristic feature of Herbart's concept of logical thinking, and of the function of Sufficient Reason is that these are not confined to particular logical *schemata* such as the syllogism or the hypothetical form, but the consequence is conceived as springing rather from an indefinite and complex system of concepts, the "widened ground." This complex and phenomenistic relation of ground and consequence, corresponds then to the complex relativity of empirical phenomena, as we have it expressed in the empirical concepts of Causation, Inherence, &c. The analytical working over of these latter concepts, until they

¹ *Complete Works*, Vol. VIII, p. 14.

² *Complete Works*, Hartenstein, Vol. III, p. 44.

express the logical relation of ground and consequence without contradictions, is therefore the goal of Sufficient Reason. The relation of ground and consequence shall likewise make the relations in the real understandable that all real connections may be seen to depend upon the logical relations of ground and consequence.

§ 71. In the working out of this new and modified rationalism it is seen that the concepts of Inherence and Causation inevitably carry thought from the appearance to the metaphysical ground of the appearance.¹ Especially the causal concept, as the result of this analytical determination by the "Methode der Beziehungen," loses the empirical significance which distinguishes it from the logical law of ground. Causation as a phenomenon of succession belongs entirely to the sphere of appearance. Real happening and the necessity involved in it are conceivable only as metaphysically determined.² The application of the logical law of ground and consequence to experience led Herbart to the belief that all thinking concerning phenomenal relations, according to its principle, must consist in metaphysical constructions. The "Sufficient" Reason of the real is again identified with causality. The idea that the empirical as well as the metaphysical concept of causality might be an expression of the law of ground did not find a place in his thinking. The ideal of a contradictionless whole of thought as his ideal of Sufficient Reason led him into ontology.

§ 72. Professor Brandis in his critique properly asks, can we consider that, after this method of Relations has done away with all contradictions, we have actually come "über die *ratio cognoscendi* hinaus?" Can it be said that by relieving the concept of causality of its contradictions we have gotten to the real inner nature of a particular causal relation? Is it not rather a "Machtspruch des Denkens" that changes the logical result into a knowledge of the real as it is? As a matter of fact, Herbart anticipates this criticism when he

¹ *Complete Works*, Vol. VIII, p. 243.

² Cf. König, *Entwicklung des Causal Problems*, Vol. II, p. 118.

says "unsere ganze Abweichung von der Erfahrung besteht in *notwendigen* Ergänzungen dessen was sie uns nicht vollständig zeigt."¹ And indeed it does seem that if a contradictionless whole of experience be the ideal of Sufficient Reason—that if the nature of the principle is that of a logical postulate, then starting with experience as a basis, whatever the exigencies of the logical working over of the contradictions involved in that experience develops, must represent the real. But this involves a tremendous assumption which no theory of knowledge has a right to make, viz.: that the logical consciousness can penetrate to the essence of reality. Although Herbart had clearly before him the two distinct problems of the logical nature of the postulate of ground and consequence on the one hand, and on the other the question of the application of that logical postulate to reality as given in experience, yet he did not rise to the point of distinguishing between an empirical and a metaphysical application of the Law of Ground, nor did he appreciate fully the critical nature of the problem of the limits of these two extensions. This remained for a later and more developed stage of logical reflection—as represented by the logicians Sigwart and Wundt.

§ 73. It is at this point that the struggle between a logical and a metaphysical view of the Law of Ground, which characterizes the Herbartian thinking, becomes prominent, namely, in the two problems, on the one hand of the nature of the law and secondly the extent of its application to reality. Arisen as a problem of methodology, defined as a subjective postulate demanding a contradictionless whole of experience, it is further developed into a complete logical and analytic method which, without deserting the logical standpoint, extends in a critical fashion the concepts of logic to meet the demands of the material elements, for which formal logic is not sufficient. In the application of this principle to the problems of reality Herbart fell back into the rationalistic and ontological point of view, to which his theory was

¹ *Complete Works*, Vol. VIII, p. 399.

near akin. For in following out this postulate of a contradictionless whole of thought, he was led in the way of Wolff, that is into the world of the "possible" and not of the real, for the former alone can be disclosed by the principle of Contradiction unaided by the limitation of the definite laws of experience. It remained for a follower of Herbart, Drobisch, to develop more definitely the logical nature of the Law of Ground, and for later thinkers, also influenced by him, Sigwart and Wundt, to determine more critically the application of the law to reality. It should not be overlooked, however, that Herbart grasped the one historically important idea, namely, that the Law of Ground is essentially a logical principle, with applications to the real, and not a metaphysical law of real relations. Perfectly consistently then he distinguishes in the last chapter of his *Encyclopädia*, an indefinite number of grounds, in significant contrast to the fourfold division of which Schopenhauer made so much.

§74. With the Herbartian School properly closes the history of *Ratio Sufficiens* as a metaphysical principle in the strict sense of the term. Now begins a process of disintegration which makes it somewhat difficult to follow the fate of our principle. It would be almost impossible, in the midst of this eclecticism that follows, to give a satisfactory account of it were it not for a phenomenon which is characteristic of this eclecticism, but of immense importance to the progress of modern thought—namely, the rise of the modern "*Erkenntnisstheoretische Logik*." In this movement Logic comes to a consciousness of itself and its problems—of its close relations to psychology, on the one side, and to metaphysics on the other. And what is still more important to us, this change arises in close connection with the principle of Ground. The Law of Ground as a metaphysical principle in the hands of Leibnitz, resisted the logical formulations attempted by Wolff and his school, which made it subordinate to the principle of Contradiction, and passed over into the metaphysical formulations of Kant and the

post-Kantians. But it will be remembered that in the formulations of both Schopenhauer and Herbart there was a psychological element as well. In Schopenhauer's idealism this was the principle of dependence among ideas in the purely temporal association flow of ideas. Herbart's realism, on the other hand, has its psychological side in the struggle among ideas to preserve their individuality in their mutual interference or "*Hemmung*." The psychological reproduction in these ideas is simply a picture in consciousness of a like condition among metaphysical reals. But the question, how logic shall be related to this principle, has remained in the back-ground. Wolff had looked upon Sufficient Reason as equally ontological and logical, but its subordination to the Law of Contradiction hid the problem contained in it. Besides, according to his thinking, the foundations of logic lie in Ontology as well as Psychology.¹ With the absolute distinction between form and content in Kant's critical philosophy, logic became a purely formal discipline; consequently Sufficient Reason as the supreme law of synthetical material judgments found no place in his formal logic. So also Schopenhauer recognizes logic as only formal, and only as one of the four forms of grounding—which involves him, as we have already seen, in a puzzling contradiction. Krug and Kiesewetter continue the formal tradition of Kant, and, influenced by them, Sir William Hamilton developed a formal logic upon the same lines. Under the special influence of Krug, the Law of Ground and Causation are both subordinated to the more general terms of "Conditioning" and "Conditioned."² In his "*Discussions*," however, a later work, the Law of Ground is treated merely as a corollary of the three-fold normative law of logic, Identity, Contradiction, Excluded Middle.³ And again (page 603 of the same work) he demands that: "The Principle of Sufficient Reason should be excluded from logic. For, inasmuch as the principle is not material, it is

¹ "*Logica Discursus Praeliminaris*," §88.

² *Logic*, p. 62, 63.

³ *Discussions*, pp. 160-603.

only a derivative of the three formal laws, and inasmuch as it is material, it coincides with the principle of causation and is extra logical." In its essence it is not normative but material. Likewise Herbart¹ and his school aim at a complete diremption of formal logic from metaphysics and psychology, especially Moritz Wilhelm Drobisch.²

§75. Against this formal tendency in Logic, as well as against the subordination of logic to metaphysics arises the "Erkenntnis-theoretische Logik" with the problem of following logical forms into their psychological and metaphysical sources. As especial originator of this movement we may consider Trendelenburg, whose "*Logische Untersuchungen*" appeared in the first edition in 1840. But although this work arose as a distinct protest against the formal logic, (whose neglect of the problems of "content," he claims would only be allowable "wenn die Formen des menschlichen Denkens über die Wechsel-Beziehung in der sonst alle Dinge gefangen sind, erhoben wären"³); yet it is equally in opposition to the existent forms of the metaphysics of the day as represented in Hegel, Herbart and Schopenhauer.⁴ As might be expected from the nature of its antecedents, this work does actually have as its main problem a satisfactory formulation of Sufficient Reason. For it is in this principle that the boundary line between logic, psychology and metaphysics lies. Formal logic cannot deal with it alone, because of its material element. If, on the other hand, the material element be taken cognisance of, it leads us directly into psychology and metaphysics.

§76. It is at this point that Trendelenburg's critique of preceding systems aims to show wherein these metaphysical formulations of Sufficient Reason are untenable. His own formulations will include, then, only such material elements—metaphysics and psychology—as the proper under-

¹ *Einleitung in die Philos.*, §34.

² Introduction to Third Edition of his *Logik*.

³ *Logische Untersuchungen*, 3d Edition (1870), p. 17.

⁴ Introduction to Second Edition, 61, 4.

standing of the process of knowledge itself demands. Whether his metaphysical doctrine of ground be tenable is another question. The problem itself is a new one, and an important step in modern thinking: Sufficient Reason is the basal problem of knowledge—therefore of logic; it cannot be treated alone formally, for it contains material elements; just these material elements, therefore, must be included in our logic.

§76. The problem of the relation of ground and consequence becomes the central point in the *Logische Untersuchungen*. Critically antagonistic to Hegel's identification of logic with ontology which, though at first sight it seems to offer what formal logic fails to give, really implies that thinking is without real presuppositions and of its own necessity develops,¹ he is equally critical toward Herbart's nominalism, seeing no means by which the "Method of Relations" can be more than a formal principle, since there is no reason why on the basis of this theory the number of elements in the "widened" ground should correspond to the plurality of metaphysical reals, how the solution of a logical contradiction can be the solution of a real discrepancy.² Likewise, in opposition to Schopenhauer, he attempts to find a fundamental place for the teleological element in Sufficient Reason, as a constitutive element in each of its mechanical categories, space, time and causation.³

§77. Although Trendelenburg's entire work is in a sense an exposition of the Law of Ground, the requirements of our historical study, as well as the limitations of space, allow of but merely a passing glance. His view of logic as a material as well as formal science leads to a doctrine of Sufficient Reason which assigns to it likewise a material character. The *real* necessity of the *ratio essendi* and the merely formal necessity of logical ground and consequence have been either absolutely separated or fully identified. Neither of these

¹ *Logische Untersuchungen*, Vol. I., p. 38.

² *Logische Untersuchungen*, Vol. II., p. 397, 399.

³ *Logische Untersuchungen*, Introduction to II. and III. Editions,

extremes of Schopenhauer or Hegel is necessary. As knowledge includes both thought and being, so this basal principle of knowledge is equally a real and a thought principle. The solution of this contradiction between the Law of Ground as a logical principle, and as real necessity, is accomplished by a reduction of both to a common lower metaphysical term which is yet higher than either.¹ This third metaphysical term rejuvenates the Aristotelean theory of one *primal activity or movement*, of which thought and being are elements. Applied to the concept of ground, the theory seeks to show that in the complete ground elements of thought and reality unite to produce the consequence.

§78. While such a metaphysical hypothesis of a "Grundthätigkeit," including both thought and being, is an impossible solution from a logical standpoint, we must carefully distinguish this hypothesis from the historical motive which brought it into being, and from the logical working over of the formal categories which followed as its proof.¹ First of all the motive which led to this metaphysical theory was that of finding a basis for a theory of logic which would include material elements. It was essentially a protest against a narrow formal view of logical categories, and claiming material necessity for the Law of Ground, it sought a widening of the concept of logic. It is not to be wondered at that a metaphysical theory was close at hand. And, secondly, the working out of the logical categories, especially those of modality, developed a phenomenology of the logical consciousness¹ which enriched and deepened our logical insight, a debt which Sigwart fully recognizes. In the development of this phenomenology two striking characteristics of the logical consciousness and of its fundamental principle, Sufficient Reason, are brought to light. First, in that the processes of judgment, of knowledge, are conceived as a *wahres Geschehen*,³ a happening in which real and

¹ *Logische Untersuchungen*, Vol. I., p. 135.

² *Logische Untersuchungen*, Vol. II., p. 140.

³ *Logische Untersuchungen*, Vol. II., p. 178 and p. 312.

knowledge elements are united, the causal interdependence of these processes becomes a fundamental concept. The concept of an immanent logical causality of our knowledge processes, as the last term of S. R., becomes prominent. And, secondly, this *wahres Geschehen*, this immanent logic, is conceived to be teleological in its nature. This is particularly marked in Trendelenburg's theory of geometrical reasoning.¹

The necessity which emerges then from this teleological movement of the Immanent Logic—is itself not a category of merely formal logic—not merely thought necessity in the one-sided use of that term, but a necessity both formal and material,² as the later logicians formulate it, both logical and psychological.

¹ *Logische Untersuchungen*, Vol. II., p. 190, 191.

² *Logische Untersuchungen*, Vol. II., p. 183.

CHAPTER VI.

SUFFICIENT REASON AS THE BASAL PRINCIPLE OF
MODERN LOGIC.

§79. Before passing to Sigwart we must notice the contributions of several other men, to the modern logical movement, but only in so far as they have contributed elements, afterward taken up into the modern doctrines of "Sufficient Reason,"—for we have to do with the history of modern logic only in so far as it affects the fate of our problem.

1. First of all—Drobisch¹—between whom and Trendelenburg, in the different editions of their works, a battle raged concerning the province of logic, the former always maintaining the formal side, according to Herbartian principles. Though logic is formal in its nature, Drobisch also maintains that the Law of Ground is the basal principle of all logical relations, in striking contrast to the preceding formal logic which excluded it as a material principle. Herbart, he says, was the first to recognize the true nature of logical ground and consequence, for he showed that ground could never be unitary and simple and thus the full nature of the relation of ground and consequence exhausted in the syllogism. Formal logic is as little satisfied with the syllogism as an expression of grounding as is material thinking.²

For the relation between ground and consequence in logic is not that which the syllogism at first sight shows: that from a simple, already distinct unitary concept a new concept is deduced. That involves a contradiction, as Herbart showed. The ground is equally in formal logic *the entire interdependence of all the concepts expressed in the syllogism upon each other*. Thus the relation of ground and consequence is synthetical and analytical at the same time, analytical in so far as subject to the norms of Identity and Contradiction. But being simply the law of the dependence

¹ Logik—3rd Edition. Introduction.

² Logik.—3rd Edition. §39.

of all concepts upon each other, it excludes the metaphysical axiom of causation from consideration as an expression of the Law of Ground in the logical sense.¹ The Law of Ground is then the fundamental principle of logic to which the principles of Identity and Contradiction are subordinate. It expresses itself in all relations among ideas, either *immediately* in the logical relations of concepts, or mediately in the formal relation of ground and consequence in the syllogism, especially in the hypothetical judgment.

Implied or expressed Sufficient Reason is the basal law of all logical relations.²

2. Thus is finally reached a clear statement of what Herbart had implied and what Trendelenburg had meant by the idea of the co-existence of the conceptual and material elements in the ground. That is the concept of an immanent logic as over against the clearly expressed formal relations of identity, is fully attained. A wider extension of the principle in Wundt.

§80. Another principle of importance, not fully attained principle, as well as a more definite formulation is to be found in Herbart and Trendelenburg, is finally clearly determined by Lotze. The problem of the nature of the causal concept as an aspect of the general Law of Ground was throughout the history of the principle the most important and yet the most difficult to determine. All those who answered it in the metaphysical spirit looked upon the causal judgment as synthetic and material, without reference to the logical relation of ground and consequence. Herbart and Trendelenburg, in bringing the whole principle of ground again into the logical sphere, are yet not able to determine the proper relation of the logical element of ground in the causal concept.

A distinction between the logical postulate, and the empirical elements, both equally present in the causal judgment in germ, exists, however, as a necessary consequence of the consideration of the causal relation as an application of the logical postulate of Sufficient Reason. This distinc-

¹ Logik.—3rd Edition. §39. p. 44.

² Logik.—3rd Edition. §57.

tion is first clearly set forth by Lotze, who goes out from the difficulties in the Herbartian doctrine of this relation; for he considered that between reals with no quality other than that of simple "position," no relation of cause and effect can be thought. With Herbart and Trendelenburg he is in accord, in the view that the *Ratio Sufficiens* consists in the whole complex of data, and their relations from which the character of the supervening effect is deducible and in this sense he defines the Aristotelian doctrine of *δύναμις* and *ἐνέργεια* as the first expression of Sufficient Reason. But he maintains further, that in the Postulate of Sufficient Reason with which we come to phenomena we must distinguish between the general logical postulate of a *necessary* relation of ground and consequence in the causal concept, and the empirical *sufficiency* of a given cause, in bringing about a given effect. This distinction, one of the most weighty points of his thinking, is treated fully in his metaphysics and logic, but for a concise expression, the following quotation from the "*Grundzüge der Metaphysik*" will suffice:—"An die Stelle des falschen Begriffs der schaffenden muss der der wirkenden Ursache gesetzt werden. Und dieser richtige Begriff des Causal-Nexus enthält zwei verschmolzene Principien, das der Ratio Sufficiens und das der Causa Efficiens."¹

The latter expresses the logical postulate of necessity, the former the empirical sufficiency included in the causal concept. Here at last is reached a clear doctrine of the relation of Sufficient Reason to causation, from the lack of which the whole history of the problem since Leibnitz had suffered. A more complete development of the distinction is to be found in Wundt's doctrine which follows in a later chapter.

SIGWART.

§81. *With Sigwart is the place of our Principle in Modern Logic definitely secured.* Following upon the earlier work of Trendelenburg and Überweg, as he himself remarks in the

¹ Lotze, "*Grundzüge der Metaphysik*," p. 39.

introduction to his *Logik*,¹ he is enabled to formulate Sufficient Reason critically, to show its place in logic and its relations on the one hand to psychology and on the other to metaphysik. 1. As a positive result of Trendelenburg's work Sufficient Reason receives an important place in his logic together with all its unlogical implications, and as a negative result of the same work, the line between the psychological and metaphysical is closely drawn. As the basal law of logic its formulation is as follows: "Jedes Urtheil behauptet einen logischen Grund zu haben, der es für jeden Denkenden notwendig macht. . . . Mit dem Grunde ist die Folge gesetzt mit der Folge ist der Grund aufgehoben."²

This however is a law which, though universal in logic, is comparatively limited in its application, for it can apply only to judgments whose *grounds are known*, that is conceptually determined:—"denn streng genommen ein logischer grund den wir nicht kennen ist ein Widerspruch, denn er wird erst ein logischer Grund *dadurch* dass wir ihn erkennen."³

2. *This primal logical law extends then in two directions* into spheres where the grounds are not all logically, conceptually determined—in the form of two postulates, closely connected but yet at bottom different. a. The first is the psychological postulate: *that no judgment is given without psychological ground for its certainty—(not necessity)*. b. The second is the causal axiom: *that nothing happens in the objective world without a sufficient cause.* It is important to determine the relation of logical Sufficient Reason to these two postulates and of each to the other.

§82. a. Evidently the psychological postulate is much more general than the logical for it applies equally to judgments whose grounds are not known, and to those whose grounds are known; while the logical, strictly speaking, governs only the latter. Subjective certainty, "*Geltung's Bewusstsein*," is the most general term for Sufficient Reason,

¹ Cf. *Logik*, 1873. Introduction.

² *Logik*, 1873. §32.

³ Cf. also Leibnitz, §21.

in that all logical necessity is also subjectively certain, but there is much more subjectively certain that is not logically necessary. (Thus the confusion of "Sufficient Reason" with psychological necessity as we have seen it exemplified in Augustine, Hume, and to an extent in Schopenhauer.) But to the phenomenology of this psychological "Geltung's Bewusstsein" Sigwart denies metaphysical worth—its phenomena must be studied as throwing light upon the logical consciousness, by developing the psychological laws with which logical judgments are related. In this phenomenology of grounding the marks of Trendelenburg are plainly to be seen—especially in the chapter on the Modal Categories that follows. But into the detail of this movement of grounding we cannot enter. While the phenomenology of Grounding cannot be taken as of metaphysical value, in Trendelenburg's sense, it allows us to postulate back of logical relations of ground and consequence, as brought to consciousness in the formal judgment, an immanent logic of ideas which encompasses the whole psychological complex which lies back of the judgment. So that Sufficient Reason is extended beyond formal logic to the place of a general principle of thinking. This is well expressed by Beno Erdmann, who, in general, repeats the same view as Sigwart, when he says: "Sofern das Geltung's Bewusstsein aus der Gewissheit und Denknöwendigkeit besteht ist es durch beide bedingt, durch beide zureichend begründet."¹

§83. b. *The second problem is that of the extension of Sufficient Reason outwardly, as a principle of causal judgments.* This is expressed in the statement that causation is not a peculiar form of Sufficient Reason, but only a *postulate* of the validity of the Principle in an external metaphysical sphere. Only in so far, therefore, as a relation of cause and effect allows itself to be expressed in the form of a *hypothetical judgment*, can it be said to stand under the logical Law of Ground. (Here also Erdmann takes practically the same

¹ Erdmann, *Logik*. §46.

position,¹) Causation is not an independent manifestation of Sufficient Reason for the sphere of objective truth, in the Schopenhauerian sense, for that includes in it the presupposition that causation is the Sufficient Reason of *existence* of that objective Reality, which leads to a further metaphysical construction of Sufficient Reason in an idealistic direction, as the principle which necessitates the objectification of subjective ideas.² It is psychologically certain that an individual is necessitated to assign his sense affections to an outer cause, but it does not follow, that this cause *actually exists* either in space or in thought. Besides, *that* I am not conscious of producing these causal relations does not preclude the possibility of their being of purely subjective origin, therefore does not prove that causation is an objective form of "Sufficient Reason." The consequence is that we can not consider causality an axiom of reality but only a *postulate* of knowledge. As such a postulate, its relation to logical ground and consequence is that of any other *a priori* axiom, in the sense that the existence of this principle or of some particular fact based upon it is used as a ground for some logical expression of thought. Thus the necessity expressed by the hypothetical judgment, which is really the only formal expression of the Law of Ground in logic, is based upon this axiom which is in every hypothetical judgment either expressed or implied.³ In so far as the relation of cause and effect is expressed in the hypothetical form of judgment, it is taken up into the sphere of the necessity of formal logic.

§ 84. We are now in a position to distinguish between the three kinds of grounds developed by Sigwart. There is first,—the logical ground in the strict sense of the word in the hypothetical relation of two concepts which says that if one is true, the other is; if the consequence is proven to be false, the ground is false also. Only in this sense is the law of

¹ Erdmann, *Logik*. §409.

² Vol. I. §48. p. 367.

³ Sigwart, *Logik*. Vol. I. p. 211.

ground an independent law of pure logic, and as such it is more of the nature of a postulate than of a normative law. In the second place, that is ground of a judgment which psychologically brings it about; therefore the entire complex of consciousness out of which a judgment grows. This includes partly, merely psychological association of ideas, partly conscious comparison according to the logical laws of Identity and Contradiction; partly the *a priori* postulates, especially causation, which is both logical and psychological in its necessity.

The third source of ground is that to which reality is attached and which, according to the principle of Sufficient Reason, is considered the condition of the existence of another element of external reality, called the effect. A consideration of the mutual relations of these three grounds to each other would show that the only direct logical expression of Sufficient Reason is the hypothetical form of judgment, in that it stands under the law of ground analytically—the consequence is expressly contained in the ground.¹ All other forms of judgment are under the law of ground in logical *immanence*. That is, the predicate is contained in the subject. This immanence of the predicate in the subject leads back, however, to a sphere where the logical necessity is not clearly expressed, where the full ground is not known, and the grounds thus become partly psychological. Here the Law of Ground can only be expressed as a postulate of the universality of this logical immanence among our ideas. On the other hand, pushing out from the formal relation of ground and consequence into external reality we postulate the existence of what we merely logically express as ground and consequence. In so doing we have fallen back upon the causal axiom.² Thus equally in both the inner and outer direction in consciousness and in what is out of consciousness, is extended, through postulates, the force of the Law of Ground.

¹ Sigwart, "*Beiträge zur Lehre vom hypothetische Urtheile*. (Tübingen, 1871).

² Erdmann, *Logik*, pp. 301 and 419.

WUNDT.

§ 85. By far the most important modern statement of Sufficient Reason is to be found in Professor Wundt's *Logik*, from the second edition of which (1893), the following resumé is taken. This is true not only because of the extraordinary fulness with which the problem is treated, but equally because of the definiteness of the place assigned it in logic, and the critical acuteness with which the relations of the logical to its psychological and metaphysical applications are determined.

It was the failure of Leibnitz, according to Professor Wundt, that in his conception of the principle, it was confined to empirical truth, to the psychological sphere of confused ideas, thus obscuring at the very beginning of the history the essentially logical nature of the term ground—and thus making it identical with the causal axiom, with which it has only a distant relation.¹ Kant, despite his severing of the Law of Ground from formal logic, fell into a certain rationalism, in that identifying the principle with causation, he deduces both from the hypothetical judgment.² Schopenhauer makes the mistake of putting the weight upon the empirical application of the law not upon its original logical nature. His method is of the same order as that which would seek to make Identity in the intuition and Identity in concepts two distinct roots.³ His four fold principle with its "*Intellectuelle Anschauung*" must be looked upon as a metaphysical rationalism; nothing more than a remainder of the Wolffian logic of reality. Finally any attempt, such as that of Hamilton, and later of Riehl,⁴ to bring Sufficient Reason into logic by subordinating it to the law of Identity must fail, for Sufficient Reason expresses just those relations in thought which do not come under the rubric of Identity, relations of dependence, equivalence, by reason of which the

¹ Wundt, *Logik*, 2nd Edition, 1893, Vol. I, p. 569.

² Wundt, *Logik*, 2nd Edition, 1893, Vol. I, p. 590.

³ (*The same*), p. 571.

⁴ *Philosoph. Criticismus*, Vol. 2, p. 230.

worth of the consequence depends upon the worth of the ground.¹ Thus, "if the angles of a right angled triangle are equal, so are the sides equal," expresses, in no sense, a relation of identity between the ground and the consequence, but a relation purely of dependence based upon the nature of the reality about which the relation of dependence is expressed. Besides, if the law were equal to identity, it must read equally "with the consequence is given the ground as well as with the ground is given the consequence"—a manifest absurdity.

§86. *Thus the Law of Ground is the most general law of all logical thought*, a postulate underlying all thinking as "Satz der Abhängigkeit unseren Denkacte von einander."² As such it extends through the entire "Schlusslehre" and is manifested in all relations of concepts whether syllogistically expressed or not. This formulation striven for by Herbart and expressed by Drobisch,³ is now recognized by Wundt, but with the addition that its consequences are further carried out.⁴ As the general law of the dependence of all logical thought, Sufficient Reason is not a normative principle, to be applied in carrying out actual judgments. "Denn es giebt lediglich dem Postulat, dass der Inhalt unsers Denkens nach Gründen und Folgen sich ordnen lasse, einen Ausdruck und es weist daraufhin dass der Schluss eine solche Ordnung herstelle. Aber die Kriterien bleiben unbestimmt. Schen wir uns nun an den einzelnen Beispielen des Schliessens um, so zeigt es sich dass bald Identität, bald Subsumption den

¹ Wundt, *Logik*, 2nd Edition, 1893, Vol. I, p. 570.

² Vol I, p 573.

³ Cf. Par. 79 (above).

⁴ (This is a step further than Sigwart, who still somewhat under the influence of the formal analytical nature of the Law of Ground, confined it formally to the hypothetical assigning the affirmative and negative judgments to Identity and Contradiction. In the syllogism, the first and second figures were shown to be subject to the principle of Sufficient Reason. For a complete and detailed carrying out of this principle, that the "Abhängigkeit's Verhältniss" expressed in Sufficient Reason is the basal law of all logical forms—compare the work of Dr. Franz Erhardt, *Der Satz vom Grunde als Princip des Schliessens*," Halle, 1891,

Grund darstellt."¹ Because of its not being a normative law, it will be remembered, Hamilton demands that Sufficient Reason be excluded from logic, for as a material principle, it coincides with Causation.² On the contrary, it is just because it is not a definite normative law, that with Wundt, it becomes the basal principle of logic, with the normative laws as presuppositions. As such a general law of concepts, the Wundtian formulation is as follows: Wenn verschiedenen Urtheile durch Begriffe die Ihnen gemeinsam angehören in Verhältniss zu einander gesetzt sind, so stehen auch die nicht gemeinsamen Begriffe solchen Urtheilen in einem Verhältniss welches in einem neuen Urtheil seinen Ausdruck findet."³

Here then is a strictly formal expression of Sufficient Reason which fills the demand of Herbart, which was that the law of ground be formulated so as to show how new judgments can arise. It is a more precise expression of what Herbart meant by widening the concept of the ground, that a new consequence might arise. It expresses simply the relation of dependence of concepts upon each other, dependent not upon the normative laws, but upon the relative worth of the concepts for each other. Thus the formula $y = ax + b$ stands under the law of ground, for the numerical value of y depends upon the numerical value of x .

§87. But such a general law of ground of the dependence of concepts logically upon each other, according to their logical worth for each other, in that it is a material principle, depends for its value upon its application to experience. To what extent then may there be different applications of this general law according to the *material* constitution of the ideas which it shall hold in its grasp? Schopenhauer had made the mistake of so putting the weight upon the application, that he developed absolute metaphysical distinctions between its four roots, thus reducing the logical form to the sphere of a phenomenal application; for the universal logical character, he was thus compelled to substitute an ontological

¹p. 317.

²Cf. § 74 above.

³Vol. I, p. 317.

which he called metalogical.¹ In contradiction to this Wundt maintains: "Der Satz braucht die Anschauung zu seiner Anwendung, aber er ist selbst nicht Gegenstand der Anschauung. Daher kann man ihn nicht durch Hinweiss auf den Zusammenhang der Erfahrung erklären; vielmehr ist er es erst, durch den unser Denken Zusammenhang hervorbringt."²

§ 88. What then are the particular applications of this logical law to phenomena? They are of two kinds. 1. The formal in Mathematics. 2. The Material as expressed in the different forms of the causal axioms. The more general law which governs all its applications is that in order to find expression in the data of the "Anschauung," it submits itself to the material nature of the "Anschauung," upon this depends the *extent* and validity of the application.³

I. *The Mathematical Application.* Just as this Law of Ground is the undeducible *a priori* axiom of all thought in general, so are the special axioms of mathematics the application of the Law of Ground to the concepts of space and time. The further application of these axioms to a hypothetical substratum of the natural phenomena gives the physical axioms.⁴ "Alle Mathematische Operationen gründen sich also auf Axiome welche Anwendungen des Satzes vom Grunde auf mathematische Fundamental-Begriffe darstellen."⁵ This championing of the logical character of mathematical knowledge against the Schopenhauerian doctrine of the "Anschauung," rests upon Wundt's doctrine of the mathematical relations as the most abstract of concepts (which is fully developed in the second volume of his *Logic*, chapter II, when he abandons the Kantian theory of a transcendental pure intuition) as so abstract that they are, one might say, transparent and therefore allow of an application of the logical axioms, more especially of Ground, without any indeterminate remainder. Schopenhauer's doctrine rests upon a false distinction between "Anschauung" and "Begriff" growing out of the Kantian doctrine of the pure "Anschauung."

¹ Cf. § 51.

² *Logik*, p. 571.

⁴ *Logik*, p. 561.

⁵ *Logik*, p. 577.

ung." The only difference between the logic of mathematical, and non-mathematical concepts, is that in the former the "Anschauung" is used in a special symbolical way for the proof of the theories; that is empirical constructions are called in, in geometry, for the purpose of enabling us to deduce particular laws from general axioms, (in the sense of the "Zufällige Ansichten" of Herbart and the teleological geometry of Trendelenburg.) But these constructions can be said to be a part of the ground only in the particular case when they are called in as a means to an end. What really stands under the law of ground in the strict sense is the deduction according to logical principles.

§ 89. Over against the complete application of Sufficient Reason to Mathematics, its application to experience in the Causal Axiom is such that causation fails to fall together with the Law of Ground. This failure arises from the fact that in the particular empirical causal relation "der Hinweis auf das begründende Denken nicht dargethan ist"—for the particular causal relations must be found empirically for themselves. The element of the logical Law of Ground which is to be found in causation lies in the postulate that for every real a sufficient cause must be found. This rationalistic side of causation alone is related to the Law of Ground. The arguments of Kant and Schopenhauer both fail to show causation to be an *a priori* principle as source of the particular causal judgments.¹ The complete identification of causality with Sufficient Reason would only then be allowable "wenn die Ursachen als Prämissen benutzt werden könnten aus denen ohne Rücksicht auf bestätigenden Beobachtungen die Wirkungen zu erschliessen wären."² Causality, then, has a dual nature—"Darum trägt das Causal Gesetz den doppelten character eines Gesetzes und eines Postulates an sich. Als das Letzte ist causalität Satz vom Grunde."³ To this extent then can the logical law of ground be said to penetrate phenomenal experience—in so far that in consequence of its postulate, phenomena must be looked upon as

¹ Cf. Sigwart, par. 83.

² p. 610.

³ Cf. par. 80 (above).

under definite laws. "Die unverbrüchliche Gesetzmässigkeit die das wissenschaftliche Causal Gesetz einschliesst, ist eine notwendige Folge jener Beziehung zum Satz des Grundes die ihm innewohnt."¹ This imperfect relation of the Causal Law to the Law of Ground, manifests itself according to the *material* to which causality is applied. For we saw that Sufficient Reason in general depended upon the Intuition for its application, so here in its application as causality it depends upon the nature of the intuition for the character and extent of its application. a. "In seiner anwendung auf die Erfahrung richtet sich dieser Grundsatz nach den besonderen Bedingungen welche die Erscheinungen unserem, nach Grund und Folge verkündenden Denken entgegen bringen." Further:—b. "Es entspringen so aus ihm die einzelnen Erfahrungsgesetze die sich sämtlich wieder auf zwei allgemeine Principien zurückführen lassen, auf das Causal Gesetz und das Zweck Princip."² Now the application of the Causal Axiom, with its twofold nature, partly the Law of Ground, partly that which will not be contained in this primal law of logic, *results in antinomies* which show the extent to which the Law of Ground may force itself into phenomena. These antinomies are two in number, different according as causation is applied to the objective world or to the psychological sphere.

§90. 1. The *antinomy of mechanical causation in Natural Science*.—This antithesis arises between logical causation, or causation as the Law of Ground and phenomenal causal criteria, from the empirical side. The kernel of the causal thought is the idea of determination or more metaphysically—of efficiency.³ But for this efficiency to be conceivable naïve thought, and ultimately rationalistic reflection, translates the logical necessity over into the sphere of reality by demanding that the cause and the effect be in immediate contact, "so that the force of the cause may pass over into the effect." Thus, temporally speaking, the postulate demands that cause and effect be simultaneous. This is the nearest

¹Cf. Lotze's distinction, § 80 (above). ²Vol. I, p. 574. ³Cf. Lotze, § 80 (above.)

approach to an expression of this logical element in causation. On the other hand the study of phenomena shows us that invariably the cause and effect appear only as successive. Thus in an early edition of his *Logik*¹ we find the antinomy formulated as follows:

Thesis: (Rational)	Antithesis: (Empirical)
Ursache und Wirkung sind zugleich.	Die Ursache geht der Wirkung voran.
equally	also
Mit dem Aufhören der Ursache erlischt die Wirkung.	Nach dem Aufhören der Ursache verharret die Wirkung.

This antinomy shows how far the Law of Ground penetrates reality as the causal axiom. In its pure logical form it cannot enter but is met by a refusal on the part of phenomena to conform to its demands. In the modified form of a partly empirical law it can attain "sufficiency"—that is sufficient causes may be found, but the absolute determination of the logical postulate, reality resists. Such a determination is only possible on the basis of a metaphysical theory of the phenomenal causal relations being transparent concepts for the application of the logical Principle of Ground—the postulate of a logic of the Universe. So long as we abstain from a metaphysic, these antinomies do not trouble us.

§91. But still more complicated becomes the antinomy when the Law of Ground is applied to the sphere of psychological phenomena. Here it is the antithesis between causality "als Erzeugniss unseres Denkens und unser Denken als Erzeugniss der natur." Here we have turned the Law of Ground upon the phenomena of consciousness, and as upon any other phenomena, here also it makes the demand that the relation of the phenomena of consciousness, of the ideas which make it up be logically necessary. Now if we look at the ideal content of consciousness, from one side, it will be

¹*Logik*, 1880-'83, p. 536.

seen that from the standpoint of the theory of knowledge these ideas in their relations, concept to concept, stand under this general logical law of Sufficient Reason or of the dependence of concepts upon each other, for it was in this sphere that we saw the law in its original form expressed. Here it will be seen, we have gone out from the *results* of the activity of consciousness. But if on the contrary we look upon psychological life, in its entirety aside from its value for knowledge, the application of the Law of Ground must be two-fold, of the nature of an antinomy as in the case of the application to external reality. For on the one hand the mere association of ideas, by reason of its connection with the external world, is subject to mechanical causation; to will acts however must be assigned an inner causality, for they are governed by the teleological principles of purpose and worth. How then does the general logical principle of Sufficient Reason relate to these two different sides of the content of consciousness? Of course, in so far as the association of ideas is governed by mechanical laws, the Law of Ground is applied according to the principle expressed in the preceding paragraph, but on the other hand the relation between the logical Law of Ground and the inner teleological causality is of another sort. For this problem Wundt has a simple, and yet far reaching answer. The primal Law of Ground and the inner causality are identified. In other words the inner causality as represented in the higher apperceptive processes of judgment and will is an immediate manifestation of the primal Law of Ground. "Für die Wirkung innerer Kraft giebt nicht eine gewaltige Umformung der natur-causalität, wie in Psycho-physik, sondern hier greift die logische Causalität in ihrer ursprünglichen Gestalt Platz, der Satz vom Grunde selbst."¹

With this striking cutting of the Gordian-Knot, two of the most difficult problems of the whole history of the Principle of Sufficient Reason seem to be solved. a. The first problem of the relation of the logical Law of Ground to the

¹ *Logik*, Vol. I, p. 627.

causality of the will, which was variously solved, either by making the latter independent of the logical laws as in Crusius, or identifying it with mechanical causation as in Schopenhauer, is now solved by so extending the logical Law of Ground as to include the logical causality of consciousness which works under the laws of "ends and worths."¹ b. The second, more especially epistemological, problem concerns the relation of this primal logical law and its necessity to the "sufficiency" of the psychological processes which produce the logical results. Here again the concept of logical causality is extended to include all these psychological processes out of which the logical "resultants" arise. Here again "der Satz vom Grunde greift in ihrer ursprünglichen Gestalt Platz." Logical necessity lies alone in the "Resultanten" of these apperceptive processes,² but in that these results act as the immanent ends of the processes that precede them, is the whole movement under logical causality, or in other words the whole apperceptive side of consciousness is under the Law of Ground. The relations of cause and effect between "resultant" and the process which has brought it about, are decided not by equivalence of forces as in mechanical causation, but by equivalence of values³ between the process which is considered ground and the judgment which results.

§92. This doctrine of Logical Causality as governing the whole apperceptive side of consciousness, brings the element of teleology in the Law of Ground, again strikingly to the front. The Law of Ground as *applied to consciousness and its content* (except in so far as that content is under association laws) must be applied as a teleological principle, for the Sufficient Reason that in applying the Law of Ground to conscious content we go backward from the "resultants" to the sources, and these "resultants" are judged alone by

¹ "Zwecke und Werthe."

² *Logik*, Vol. I, p. 81. Cf. also the Psychological Law of "Resultanten"—*Grundriss der Psychologie* (1896), § 23.

³ *Logik*, Vol. I, p. 612. Note.

their purpose or value for consciousness, exactly the opposite of the application to mechanical causation. "Zweck und Causalität springen aus verschiedenen Betrachtungsweisen derselben Vorgänge"—und "seit die Causalität von dem Grunde zu Folge fortschreitet, der zweck aber von der Folge zum Grunde zurück, so sind beide die einzeln mögliche Gestaltungen des Satzes vom Grunde."¹ The important point however is, that, although not shut out from the sphere of causal observation of nature, teleology yet finds the chief application as a principle of grounding in the sphere of conscious processes, either judgments or will acts. One need only compare this treatment of the teleological element with that of Leibnitz to see the full meaning of the development. With Leibnitz teleology is identified with causation, as the Law of Ground ruling outside of logic; here it is the Law of Ground ruling as logical causality in our conscious apperceptive processes.

§93. To the final metaphysical question whether there is any common term for the solution of this antinomy between the two sides of the Law of Ground, the mechanical causation and logical causality as they stand over against each other in the sphere of conscious processes, Wundt answers with the hypothesis of a transcendental thinking Will, manifested in this logical causality or apperception,² but as far as the empirical problem is concerned there remains a permanent antinomy of attitude, for to give one or the other a ruling place, is to attempt the solution of a metaphysical problem with empirical means.³

¹ *Logik*, Vol. I, p. 612. Note. ² *Logik*, Vol. I, p. 630. ³ *Logik*, Vol. I, p. 628.

CONCLUSION.

§99. This résumé of Wundt's doctrine of Sufficient Reason shows the main weight to lie upon its definition as the basal principle of logic; and then, secondly, in the critical determination of the extent and nature of its application to phenomena—1) to external phenomena in the causal axiom, and 2) to the actuality of the processes of consciousness; in other words, to the metaphysical and psychological problems. Here then is a concise and critical determination of the mutual relation of the three elements most prominent in the history of the law. These critical results must be compared with the points of view attained at the different stages of the development of the principle, if the importance of its outcome for modern thought is to be appreciated. Such a comparison, in brief, the introductory chapter aimed to facilitate. And the succeeding detailed treatment of the struggle between the metaphysical and logical motives, out of which the first formulation of Sufficient Reason arose, and of the final victory of the logical standpoint has, it is to be hoped, only served to impress upon the reader the inherent necessity of the movement.

The concomitant development of what has been called the modern logical consciousness and the corresponding disintegration, or at least loss of importance of the metaphysical motive, it has been constantly maintained, lies deeply rooted in the necessity of this movement. Only, in such light, is it possible to understand the meaning of the development of this fundamental postulate from an extra-logical to a fundamentally logical formulation, according to which it is first of all a logical postulate, with only secondary applications to the metaphysical real. This logical consciousness knows no higher law than the postulate that empirical knowledge is alone possible by means of conceptual logical relations, although the bonds of the logical consciousness have been extended.

The satisfaction of the desire for unification can go no further than the postulate that all phenomena which come to our knowledge must be under the universal principles of logic in order to be known. Whether these principles exhaust the nature of the reality of these phenomena is another question. Thus Dilthey, in closing the first volume of the *Einleitung in die Geistes Wissenschaften*, which is concerned with the history of the disintegration of metaphysics and the rise of the modern mental sciences, calls attention to the fact that, by looking backward, we may see that the attempt at a unitary metaphysical formulation of Sufficient Reason has been the problem of the whole modern metaphysical movement. The failure to accomplish it has been the failure of metaphysics in general.¹ This, then, is the meaning of the giving up of a metaphysical for a merely logical theory of Sufficient Reason. Only so far as the ground is *logically* conceived is it necessary. As material principle it can only be "sufficient" not metaphysically determining, as Crusius and Kant would have. The only possible way of grasping reality, then, is by seeking relations of logical thought necessity in the relativity of experience. Into this relativity Science, whose ideal is a contradictionless whole of experience, brings logical method, constitutes an objective sphere of space, time and causality. The mathematics of space and time; the various sciences, mental and physical, with their various causalities, reducible, however, to physical and psychical, constitute the limits of the function of the postulate of Sufficient Reason as applied to phenomenal reality. But the element of necessity, common to all these forms, is just the logical postulate which forms the skeleton of thought. Those elements, which are peculiar to the particular applications of the postulate to definite particular material, are only of the nature of subjective sufficiency, and not determining necessity. This is evidently the opposite, in every particular, of Schopenhauer's position, which

¹ Dilthey, "*Einleitung in die Geistes Wissenschaften*," p. 497-519.

ascribes to them, not to the logical kernel, the source of necessity.

With the limits of the validity of this logical postulate in trans-phenomenal usage, this paper has, of course, nothing to do. There may be a logic of reality, which is independent of the laws of empirical knowledge, but in so far as the Law of Ground is concerned with phenomena, we are constrained to say, from the results of the foregoing study, that the extension of the postulate is limited, by the very nature of the material to which it is applied, to the surface of things. The postulate of a contradictionless whole of experience, which since Herbart has been a characteristic definition of Sufficient Reason, cannot be pressed so far as to lead us to seek the real beyond experience, but can only be extended as far as the logical element in the experiential laws demands.

The impulse to metaphysical unification, often falsely identified with the technical Law of Ground, though it demands rightly a fundamental place in thought must in so far be subordinated to the critically determined limits of the material applications of Sufficient Reason, that in the interests of unity, distinctions so vital, as for instance that between physical and psychical causality, are not obscured. This critical standpoint reflection has attained by a long process of struggle, which it has been the aim of the preceding pages to portray; and such a standpoint is not likely to be lost. It has been a struggle simply because, in attaining a standpoint from which the bold logical nature of this postulate is clearly seen, of necessity, the more subjective postulates, ethical and religious, as well as the metaphysical demand for unity, have been forced one by one to fall away. Historically, even until Leibnitz's time, through the Greeks, Augustine, Descartes and Spinoza, Sufficient Reason had religious or ethical coloring, as well as metaphysical. The Leibnitzians, the Kantians, and even the Herbartians, failed to separate it entirely from metaphysical demands, and to give it a purely logical self-sufficiency. This the modern logical consciousness, which is only another aspect of what is called

the modern scientific consciousness, has partially attained. A certain formalism and abstraction cannot be denied to the process, and the religious, ontological postulates remain just as strong though separated by the development of our thought from the logical Law of Ground. Perhaps all these *worth* categories might be found to have a "sufficiency" of their own, and the abstraction by means of which we come to a critical understanding of the logical Law of Ground, may only serve to bring the antithesis more plainly to our consciousness. At all events the critical results cannot be undone.

THE END.

VITA.

The writer of this dissertation, Wilbur Marshall Urban, was born March 27, 1873, in the city of Philadelphia, in the State of Pennsylvania, the first son of the Reverend Abram Urban, a clergyman in the Protestant Episcopal Church, and was baptized and confirmed in the same confession. Having received the elements of education in the public schools of his native city, and being prepared for the university in the William Penn Charter School of Philadelphia, he was admitted to Princeton University in the fall of 1891. After two years of study of the Humanities, and two years entirely devoted to Philosophy, he was graduated in 1895 with the Baccalaureate degree and was appointed James McCosh Fellow in Mental Science. Immediately upon graduation, the author visited Germany, spending the first two semesters in Jena, where he availed himself of the opportunity to hear the lectures of Professors Euchen, Liebmann, Ziehen and Dr. Erhardt. The winter semester of 1897 was spent in Leipzig under the teaching of Professors Heinze, Wundt, Volkelt and Schmarsow, after which the examination for the degree of Doctor of Philosophy was successfully passed. The author desires to express to his honored teachers his deep appreciation of their helpful interest.

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